

# DIH RADIO 0.6

## Readme

### Version Information:

This document covers the DIH Radio script pack version 0.6, released 2010-03-25.

### Changelog:

#### version 0.6:

- added: enemy contacts are transmitted too
- added: option to check for certain special radio equipment in gear
- improved: functions manager no longer needs to be manually added to missions for DIH RADIO to work
- fixed: a bug that resulted in JIP players killing the script

#### version 0.5:

- initial public release

### Overview:

- DIH Radio is a script pack that adds/enhances radio/radio operator features to Arma 2.
- It's main aim is to improve squad play and add some more realism.
- Works best on 'Veteran' level or above.
- It has been designed with WW2 to ~1991 era in mind, but it works in any environment.

### Feature Overview:

- Use your radio via the action menu to report you squad's position and the position of spotted enemy groups to the commander.
- In return, you get all positions of friendly squads that have reported their position to the commander, and all enemy squads that have been spotted.
- All squads you know about in this way will be marked on the map with NATO symbols, together with their name (friendly only) and a time stamp.
- Quality of info on enemy groups depends on how much enemy units have been spotted, and how well.
- All humans in your squad that are IN FORMATION, get the positions marked on their maps as well. Lone wolves won't get that info.
- The 'KnowsAbout' values will be transmitted as well → AI will react to enemies much better.
- Old reports will fade away over time.
- Supports portable radios, fixed radios, vehicle radios...
- DIH\_RADIO is easy to implement, highly customisable, and MP compatible

### How to implement DIH RADIO in your mission:

- 1) copy the DIH\_RADIO folder that comes with the download to your mission's folder
- 2) Add the following line to the end of your init.sqf: ' execVM "DIH\_radio\DIH\_init\_radio.sqf"; '
- 3) Add the following include to your description.ext: ' #include "DIH\_radio\DIH\_configSounds.cpp" ' (NOTE: if you have defined class CfgSounds in your description.ext already, you have to add the custom DIH\_RADIO sounds manually.).

That's all for a start. This will add DIH\_RADIO to your mission with default values.

## Customization of DIH RADIO:

There are many variables you can customize to tailor DIH RADIO to the needs of your mission. These can be found in the file `DIH_RADIO_settings.sqf` in your `DIH_RADIO` directory. Just open the file with the standard text editor, WordPad, OpenOffice or a similar program.

We will now review each option in detail:

### DIH\_RADIO\_marker\_NATO\_side:

friendly group markers: (string) - what symbols to use for friendly troops:  
"b\_" ... BLUFOR, "o\_" ... OPFOR, "n\_" ... neutral

ex.:

```
DIH_RADIO_marker_NATO_side = "b_";  
→ friendly groups will be marked with the NATO signs for BLUEFOR
```

NOTE: you can use your own set of markers as long as they follow BIS' naming convention.

### DIH\_RADIO\_marker\_NATO\_enemy:

enemy group markers: (string) - what symbols to use for enemy troops:  
"b\_" ... BLUFOR, "o\_" ... OPFOR, "n\_" ... neutral

ex.:

```
DIH_RADIO_marker_NATO_enemy = "o_";  
→ enemy groups will be marked with the NATO signs for OPFOR
```

### DIH\_RADIO\_marker\_expire\_time:

group marker fade time: (number) - 1 = 1 hour; when the limit has been reached, markers have faded and group is considered destroyed and will be removed from the marker list.

ex.:

```
DIH_RADIO_marker_expire_time = 0.13;  
→ groups will fade after ~8 minutes
```

### DIH\_RADIO\_transmission\_time:

transmission time: (number) - time it takes to complete radio transmission

ex.:

```
DIH_RADIO_transmission_time = 15;  
→ a radio transmission will take 15 seconds to complete
```

### DIH\_RADIO\_cable\_length:

radio cable length: (number) - max distance between operator and radio man. Better not change this.

ex.:

```
DIH_RADIO_cable_length = 3;  
→ a radio transmission will be aborted if operator and radio are more than 3 meters apart.
```

### DIH\_RADIO\_veh\_diam\_const:

average vehicle radius: (number) - this distance will be added to the cable length when using vehicle radios from the outside. Necessary because distance is measured from the center of the vehicle. Better not change this.

ex.:

```
DIH_RADIO_veh_diam_const = 4;  
→ 4 meters will be added to the 'cable length' when using the external radios of vehicles
```

**DIH\_RADIO\_channels\_max\_ewgc:**

maximum number of radio channels on each side: (array of numbers) – max. number of people that can communicate with the HQ at once (east west guer civ)

ex.:

```
DIH_RADIO_channels_max_ewgc = [6,6,6,6];
```

→each side has a maximum of 6 radio channels available

**DIH\_RADIO\_channels\_cur\_ewgc:**

number of currently used radio channels on each side: (array of numbers) - current number of people that communicate with the HQ (east west guer civ). Should be 0 for each side at game start - Better not change this.

ex.:

```
DIH_RADIO_channels_cur_ewgc = [0,0,0,0];
```

→no radio channel is in use on any side at game start.

**NOTES:**

The two array above are stored in a vehicle variable after game start. You may change them 'on the fly' during a mission by e.g.:

```
DIH_Radio_mainscope setVariable ["DIH_RADIO_channels_max", [6,6,6,6], true];
```

or

```
DIH_Radio_mainscope setVariable ["DIH_RADIO_channels_cur", [1,1,1,1], true];
```

This way, you could for example reduce the available radio channels of one side if one of it's command vehicles or a radio tower have been destroyed, severely damaging it's communication system.

It's better to only change *DIH\_RADIO\_channels\_max* in this case – changing the other array could have unwanted results.

**DIH\_RADIO\_factions:**

mission factions: (array of strings and numbers) - all factions that are in the mission need to be listed here, followed by -1

ex.:

```
DIH_RADIO_factions = ["USMC",-1,"INS",-1,"CDF",-1,"GUE",-1,"RU",-1,"CIV",-1,"CIV_RU",-1];
```

→DIH RADIO has been set up to work with all Arma 2 standard factions

**DIH\_RADIO\_speech\_faction\_name,****DIH\_RADIO\_speech\_faction\_sound:**

custom radio transmission speech sounds: use the two arrays below to define custom sounds for each faction. Make sure that corresponding entries use the same index pos in each array.

The sounds you use here have to be defined in *cfgSounds* in *description.ext*

The DIH Radio default sounds are defined in *DIH\_configSounds.cpp*, that is included your *description.ext*.

If a faction has not been defined here, it will use English transmissions by default.

ex.:

```
DIH_RADIO_speech_faction_name = ["USMC", "INS", "CDF", "RU", "GUE", "CIV", "CIV_RU"];
```

```
DIH_RADIO_speech_faction_sound = ["DIH_reportinginEN", "DIH_reportinginRU", "DIH_reportinginCZ",  
"DIH_reportinginRU", "DIH_reportinginCZ", "DIH_reportinginCZ", "DIH_reportinginRU"];
```

→all Arma 2 standard factions use their correct transmission sound now.

### **DIH\_RADIO\_auto\_add\_on:**

Automatically add the 'Use Radio' action to certain units?

(BOOLEAN) - if set to true, auto adds radios to starting units - see the following 4 variables for the applying rules.

ex.:

```
DIH_RADIO_auto_add_on = true;
```

→the radio auto-add feature has been turned on

### **DIH\_RADIO\_auto\_add\_white:**

Radio Auto-Add whitelist: (array of classnames) - whitelist of all vehicle classes that do get radios.

This adds radios to all derived classes as well. e.g. "landVehicles" would add radios to all tanks, cars, ...

ex.:

```
DIH_RADIO_auto_add_white = ["tank", "air", "helicopter"];
```

→radios will be added to all tank, air and helicopter classes, as well as their sub-classes

### **DIH\_RADIO\_auto\_add\_black:**

Radio Auto-Add blacklist: (array of classnames) - blacklist of all vehicle classes that never get radios

- beware of contradictions, in which case the blacklist has precedence over the whitelist

ex.:

```
DIH_RADIO_auto_add_black = [];
```

→no vehicle classes are on the blacklist

### **DIH\_RADIO\_auto\_add\_white\_cond:**

Radio Auto-Add infantry special condition: (string) - all infantry units where this condition is true will get a radio, unless their kind is on the blacklist; `_x` stands for the unit in question. Default value is "false";

ex.:

```
DIH_RADIO_auto_add_white_cond = "leader _x == _x";
```

→all squad leaders have radios

```
DIH_RADIO_auto_add_white_cond = "(leader _x == _x) AND (vehicle _x == _x)";
```

→all infantry squad leaders have radios

```
DIH_RADIO_auto_add_white_cond = "\"PortableR168Radio\" in weapons _x";
```

→everyone with a portable R168 Radio gets the radio ability (NOTE: This nice piece of equipment does not exist yet)

```
DIH_RADIO_auto_add_white_cond = "(false)";
```

→no infantry unit will get a radio

### **DIH\_RADIO\_AI\_radio\_auto\_use\_standard:**

Standard AI radio usage script on?

(BOOLEAN) - if set to true, standard AI script for radio operators will be activated.

The standard script ensures that each AI group with radio use it at least every three minutes.

### **NOTES:**

You may create your own custom scripts for your AI.

Use the following line in your script to let an AI unit use it's radio:

```
[nil,_operator,"loc",rSPAWN,[_operator],DIH_RADIO_USE] call RE;
```

`_operator` stands for the person that should use the radio.

ex.:

```
DIH_RADIO_AI_radio_auto_use_standard = true;
```

→standard AI radio script has been turned on

**DIH\_RADIO\_starting\_contacts:**

Info on all friendly starting contacts?

(BOOLEAN) - if set to true, all friendly groups that are on the map at game start have updated their positions to their commander (i.e: You always see at least all starting positions of your friendly groups when you use a radio for the first time in a mission).

**NOTES:**

Does not (yet) work properly in mission where groups get teleported to other positions right at game start - disable in warfare!

ex.:

DIH\_RADIO\_starting\_contacts = true;

→starting friendly contact info has been turned on

**DIH\_RADIO\_auto\_mark\_starting\_contacts:**

Show starting contacts?

(BOOLEAN) - if set to true, all friendly starting contacts will automatically be marked on each player's map on game start.

ex.:

DIH\_RADIO\_auto\_mark\_starting\_contacts = true;

→starting friendly contact info will be shown on map on game start

**DIH\_RADIO\_respawnDelay:**

Respawn Delay: (number) - should be the same as respawnDelay in description.ext

The value does not matter if respawn is not available.

ex.:

DIH\_RADIO\_respawnDelay = 15;

→Respawn delay was 15 in description.ext and so has been set to 15 here too.

**DIH\_RADIO\_warfare\_adjustments\_on:**

Warfare Adjustments?

(BOOLEAN) - if set to true, some standard warfare functions will be replaced with adjusted ones that auto-add radios to vehicles that have been bought and fulfill the white/blacklist requirements. Also, respawned soldiers with radios will keep their radio ability, etc...

**NOTES:**

Because this feature might not work with customized warfare modes or because the adjustments are not needed in non-warfare missions, you can turn this feature off here.

ex.:

DIH\_RADIO\_warfare\_adjustments\_on = false;

→The warfare adjustments have been turned off.

**DIH\_RADIO\_enemy\_detection\_range:**

Enemy Group Detection Range: (number) - enemy contacts up to this distance to operator are reported.

Could have serious performance impact, I guess. I used a value of 1000 while testing without problems.

ex.:

DIH\_RADIO\_enemy\_detection\_range = 1000;

→Spotted enemies no more than 1000 meters away will be reported when using the radios.

### **DIH\_RADIO\_radio\_list\_check\_toggle:**

Check for special radio equipment?

(BOOLEAN) - if set to true, the radio man has to have one of the listed items below for a transmission.

ex.:

```
DIH_RADIO_radio_list_check_toggle = true;
```

→The script will check for special items/weapons that will be necessary for a transmission.

### **DIH\_RADIO\_radio\_list:**

special radio equipment list: (array of item or weapon classname(s)) - the radio man has to have one of the listed items for a transmission, if the above variable is set to true.

IMPORTANT: lower/upper case DOES matter here!

ex.:

```
DIH_RADIO_radio_list = ["ItemRadio"];
```

→you may only transmit if the radio man has the standard BIS radio item.

## **Additional options for mission makers:**

### **External Radios on vehicles:**

Some vehicles (certain APCs for example) have radios that can be accessed by friendly infantry from the outside. You may add that feature with DIH RADIO as well. Just put the following code into the init field of a vehicle of your choice:

```
this SetVariable [„DIH_RADIO_external_radio“, 1, true];
```

### **Manual addition of DIH RADIO action and capability:**

To manually add the radio capability to a unit, you have to do two things:

1) Add the action by using the following code:

```
_radio_man addAction ["Use Radio", "DIH_radio\DIH_RADIO_action.sqf",[],-10,false,true,"", ""];
```

2) Add a vehicle variable to your radio man:

```
_radio_man setVariable ["DIH_RADIO_present", 1, false];
```

### **NOTES:**

\_radio\_man is a radio equipped unit that shall use the DIH RADIO scripts.

Both lines of code need to be executed locally on the server and every connected client.

## **Rules for radio usage:**

Not everyone may operate a radio. The following rules apply to successfully use a radio with this pack:

-Only Squad leaders, vehicle commanders and 'Radio Men' may use radios. A 'Radio Man' is a unit that has a radio and has his "DIH\_RADIO\_present" vehicleVar set to 1 (Normally this is done automatically on game start).

-A Squad Leader may use the radio of any Radio Men. He does not have to have a radio himself.

-An Operator (= unit that tries to use a radio) has to be alive (obviously), and of the same side as the Radio Man.

-Radios in vehicles only work if the vehicle has a crew.

-You have to be inside vehicles to use their radios (exception: see *External Radios on vehicles* above)

-If you run away from a radio during transmission, or leave a vehicle while using it's radio, the transmission will be aborted.

-Radio Men may only use their radio if in formation with their squad leader (to prevent exploits).

-Only one person may operate a radio at the same time.

-There has to be at least 1 free radio channel on the operator's side to start a transmission.

-If all rules are met, the operator will start transmitting. He will kneel down and will not be able to move until

the transmission has been finished (default: 15 seconds). If he dies while transmitting, no information will be broadcasted.

-After a successful transmission, all reported friendly and enemy contacts will be marked on the map of the operator and of the maps of all units in the same group that are in formation. 'KnowsAbout'-values will be transmitted as well, allowing the AI to react to units spotted by other friendly groups.

#### **NOTES:**

Picking up a left behind radio will NOT automatically make you a 'Radio Man'. You will only be able to use it if you are squad leader or if you had the 'radio ability' before.

#### **Credits:**

Written by Dimitri\_Harkov © 2010

If you have feedback or any questions, contact me via the Bohemia Interactive Forums at:  
<http://forums.bistudio.com/index.php>

Thanks to BIS for ArMA 2!

#### **Terms of Usage:**

Use this package at your own risk.

While I took greatest care while coding it, I can't be held responsible for any (im-)possible damage that may result from using it.

You may not distribute a modified version of this package (other than the user settings) without prior written permission by the packs's author.

You may redistribute this package as long as the contents have not been modified, this document is included and it is free of charge.

If you don't agree to these Terms of Usage, you have no permission to use the contents of this package.