

# ACRE

## Advanced Combat Radio Environment

**Version:** 1.0  
**Website:** <http://dev-heaven.net/projects/a2ts3>

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### Introduction

We would like to introduce to you the ACRE mod, in production by various members of the A2 community. The ACRE mod links ArmA2 and Teamspeak3 to create a more immersive environment in which we play in, including positional audio, real radio communications and complete compatibility with the ACE2 ArmA2 project.

We intend to create the most realistic and immersive radio system within the current gaming world; based off of real life experience and knowledge, as well as the use of physical terrain obscuration, radio loss, distortion, and all other considers a real radio operator must make on a daily basis.

We welcome anyone to supply feedback or join in on this cooperative project.

- ACRE Team

### Features

- \* Two ACRE-Specific Radios
  - . PRC-119 man pack radio
  - . PRC-148 handheld radio
- \* 100% ACE2 Compatible
  - . Integration with all ACE2 man pack radios, using default AN/PRC-119 statistics.
- \* PRC-148 now replaces the default ArmA2 'ItemRadio'
- \* Realistic GUI interfaces for radios, they are the real thing
- \* Directional speaking for non-radio, normal communications
  - . Real-time 3d positional information
- \* Realistic terrain affects for radios
  - . Signal lose & distortion from buildings, hills, trees, and other objects

- . Realistic power output and antenna length considerations for all radios that effect signal
- . Realistic frequency wavelength falloff; higher frequencies do not travel as far
- . Real-time positional calculation for fast-moving objects
- \* Separate Push-To-Talk key (non-toggle) for using your radio
  - . If a person speaks on their radio and you aren't on that frequency, you can hear them 'directly'
- \* Multiple hotkeys and quick-displays for fast information about your radios
- \* Players can carry multiple radios on different frequencies
  - . Hot-swap radio hotkey
  - . Current radios selection menu
  - . Pop-up display on broadcast to know current radio in use
- \* Radios are now considered unique objects within the ArmA2 world
  - . Radios are droppable and maintain ALL settings for anyone who picks them up
  - . Program a radio and trade it with a player!
  - . Pick up your dead enemies radio and discover his platoon's frequency
- \* Man pack Radios have the ability to use 'PA' mode in a vehicle, broadcast at 40,000mW!
- \* Custom Squawk sounds for all radio transmissions (credits to Krause)
- \* Realistic distortion effects
  - . Normal broadcasting distortion
  - . Signal lose distortion and noise
- \* 100% BattlEye compatible
- \* Performance and desync considerations
  - . All time critical radio information is communicated via TeamSpeak3, server desync doesn't break ACRE
  - . Crash/Desync fallback functionality. Sound "anomalies" are no longer possible with lag/desync.
  - . Optimized distance, terrain, positional and signal calculations
  - . Use of JayArmA2Lib for Named pipes communication; 0-latency inter-process communication between TS3-ArmA2
  - . Server side garbage collection of radios to prevent object clutter/long mission lag
  - . Many fixes for ts3/arma2 crashes, server/mission disconnects
    - Global 15 second reset for any of these scenarios

## **Known Issues**

- \* If you run TS3 as Administrator, it is recommended you also run ArmA2 as Administrator
- \* PRC-148
  - . Cannot be programmed to custom frequencies. 100 default preset channels/frequencies exist.
  - . Cannot change power from the default 100mw (even though the real device works up to 5W)
- \* PRC-119
  - . Frequency programming interface is slightly wonky. Always reset and then program
  - . Programming buttons are not the correct ones; this is for simplicity to new users
  - . Cannot save custom frequencies into a channel

- \* Voice Activation has not been thoroughly tested. Use at your own risk.
- \* A lot of deaths on a single mission will cause weird things to happen with your radios.
- \* Dropping/Picking up used/new radios will be delayed in heavy server desync situations
  - . You will sometimes see the radio appear/disappear from your inventory, give it time
- \* Vehicles and aircraft DO NOT have any default radios. You need to take one in with you.

## **Dependencies**

- \* CBA - Community Base Addons (not included)
  - . <http://dev-heaven.net/wiki/cca>
- \* JayArmA2Lib (Included)
  - . <http://dev-heaven.net/projects/jayarma2lib/wiki>

## **Client Installation**

We currently have two methods of installation. This package includes both an installer executable, and a base set of files which can be copied into appropriate directories. The installer is the recommended method of installation, but if that fails the following information is also provided.

### IMPORTANT NOTES:

- @JayArmA2Lib directory cannot be renamed or moved
- dsound.dll must reside in the root of the ArmA2 directory.

### Directories and Files for Installation:

#### ArmA 2\ Directory

- @ACRE\
  - . This is the main bulk of ACRE plugin
- @JayArmA2Lib\
  - . communications and helpers for ACRE
- userconfig\ACRE\
  - . hot-key configuration
- dsound.dll
  - . implementation for jayarma2lib

#### Teamspeak 3 Client\plugins\ Directory

- ACRE.dll
  - . TS3 plugin for 32-bit systems
- ACRE\_x64.dll
  - . TS3 plugin for 64-bit systems

-- Automatic Installation --

1. Make sure TS3 and ArmA2 are not running
2. Run the ACREinstaller.exe file as Administrator

3. Follow the installation steps
4. Confirm that the above files have been installed
5. Within TeamSpeak 3, click Settings -> Plugins, and make sure ACRE is checked.
6. Restart TeamSpeak 3
7. Change your ArMA2 shortcut so the mod line contains at least:  
@cba;@JayArMA2Lib;@ACRE

-- Manual Installation --

1. Make sure TS3 and ArMA2 are not running
2. Copy the contents of the ArMA2 directory into the root of your ArMA2 directory.  
. The ArMA2 root directory should now contain @ACRE, @JayArMA2Lib, and dsound.dll
3. Copy the appropriate 32-bit or 64-bit ACRE DLL file into your Teamspeak 3 Client\plugins directory
4. Within TeamSpeak 3, click Settings -> Plugins, and make sure ACRE is checked.
5. Restart TeamSpeak 3
6. Change your ArMA2 shortcut so the mod line contains at least:  
@cba;@JayArMA2Lib;@ACRE

## **Dedicated Server Installation**

A server side addon is also needed to run ACRE. This is due to the need to synchronize dropped radio's appropriately. However, the server ONLY required the @ACRE mod folder. It does \*NOT\* require JayArMA2Lib. It is server compatible, but it is not required.

1. Make sure the server is not running
2. Copy the @ACRE folder into your ArMA2 folder
3. Change your server shortcut so the mod line contains at least: @cba;@ACRE

## **Client Uninstall**

### Automatic Uninstall

If you performed the automatic install, you can uninstall ACRE via your Control Panel uninstall menu.

### Manual Uninstall

1. Make sure TS3 and ArMA2 are not running
2. Delete ACRE.dll or ACRE\_x64.dll from your TS3 Plugins Directory
3. Delete the @ACRE, @JayArMA2Lib folders from your ArMA2 directory
4. Delete dsound.dll from your ArMA2 directory
5. Remove @ACRE and @JayArMA2Lib from your mod line.

## **Server Uninstall**

1. Make sure the server is not running
2. Delete the @ACRE folder in the ArMA2 Directory
3. Remove @ACRE from your mod line.

## **Basic Instructions**

The Default Hot-Keys for ACRE Are as follows:

CTRL + SHIFT + X

. Open your current radio GUI, if you have one

CTRL + SHIFT + C

. Hot-swap between the radios you are carrying as your active radio

CTRL + SHIFT + V

. Window displaying information on the radios you are carrying, and ability to change active radio

CAPSLOCK

. Radio PTT(Push-To-Talk) Key

**\*\* ALL OF THESE KEYS ARE CONFIGURATION VIA: ARMA  
2\USERCONFIG\ACRE\ACRE\_KEYS.HPP \*\***

### **Basic Usage**

#### ***Direct Speaking***

Use your normal Teamspeak PTT Key, whatever you have configured it as. You will hear people move about you in 3D.

#### ***Radio Transmission***

Whenever a person speaks or you yourself speak on a radio, you will hear two different types of 'squawks'. indicating both begin and end of transmission. Be careful!

Transmitting at the same time as someone else creates feedback, and will make everyone listening angry. If you do not hear anything, that means you are out of range. Additionally, you will hear a background fuzz and distortion on a person speaking when they are on radio. Lastly, you can hear a person speak 'directly' when they speak on a radio, if you are not listening to that frequency. If you don't hear the distortion and buzz, that means you aren't receiving their radio transmission.

#### ***Basic Operation***

1. If you're player has started with ItemRadio, it will automatically be replaced with a PRC-148
2. If it is the only radio on you, it is active by default

3. Press either CTRL+SHIFT+C to swap between active radios, or CTRL+SHIFT+V to view your radios
4. Select the radio you want to use in step #3
5. Press CNTRL+SHIFT+X, the Radio GUI will open
6. Press ESC to leave the GUI

### ***AN/PRC-148***

1. click the UP and DOWN arrows on the radio
  - . The channel and frequency will be displayed. Be on the same channel/frequency as someone else
2. Press and HOLD your Radio PTT Key (CAPSLOCK)
  - . You will hear a 'squawk', or beep, which indicates you are transmitting
3. Say "I am a jolly Rodger"
4. Let go of your Radio PTT Key (CAPSLOCK)
  - . You will hear another 'squawk', or radio "cut", indicating you have stopped transmitting

### ***AN/PRC-119***

The AN/PRC-119 consists of multiple functions on the radio. Currently, some are not enabled. The functionality available as of right now is as follows:

- \* 6 pre-programmed channels.
  - . You are able to click the knob to 'turn' it between channels
- \* Switching between power(PWR) modes. These are 400mW, 2200mW, 4000mW, and 40,000mW
  - . 40,000mW is "PA Mode", which is only avialable in vehicles
- \* Programming to a custom frequency. This is not savable in a channel.

In a simple scenario, you can simply click the channel knob, and you will be on those frequencies. If you wish to program a custom frequency, you can do the following:

1. Click the 'CLR' button to clear the current frequency
2. Program the 5-digit frequency you wish to use.
  - . Ex: if you want the frequency 3.111, this would be programmed by clicking: 0 - 3 - 1 - 1 - 1
3. Click 'CTO' to use that frequency.

## **Thanks**

- All the official ACRE testers
- TacticalGamer.Com Community for Testing: Krause, ThePieSpy, Zedic, Azzwort, Sandiford, Cro, gr!imreaper, Omega Team, TG Admins, and others
- Shack Tactical for multiple thorough testing session
- SSG Clan ([www.ssg-clan.se](http://www.ssg-clan.se)) for so much thorough testing and dealing with crashes

- Dev-Heaven community for listening to us complain
- BI Forums community for the support
- kju & Sickboy for the dev-heaven space