

# Advanced Simulated Radar Client (ASRC)

Copyright 2002

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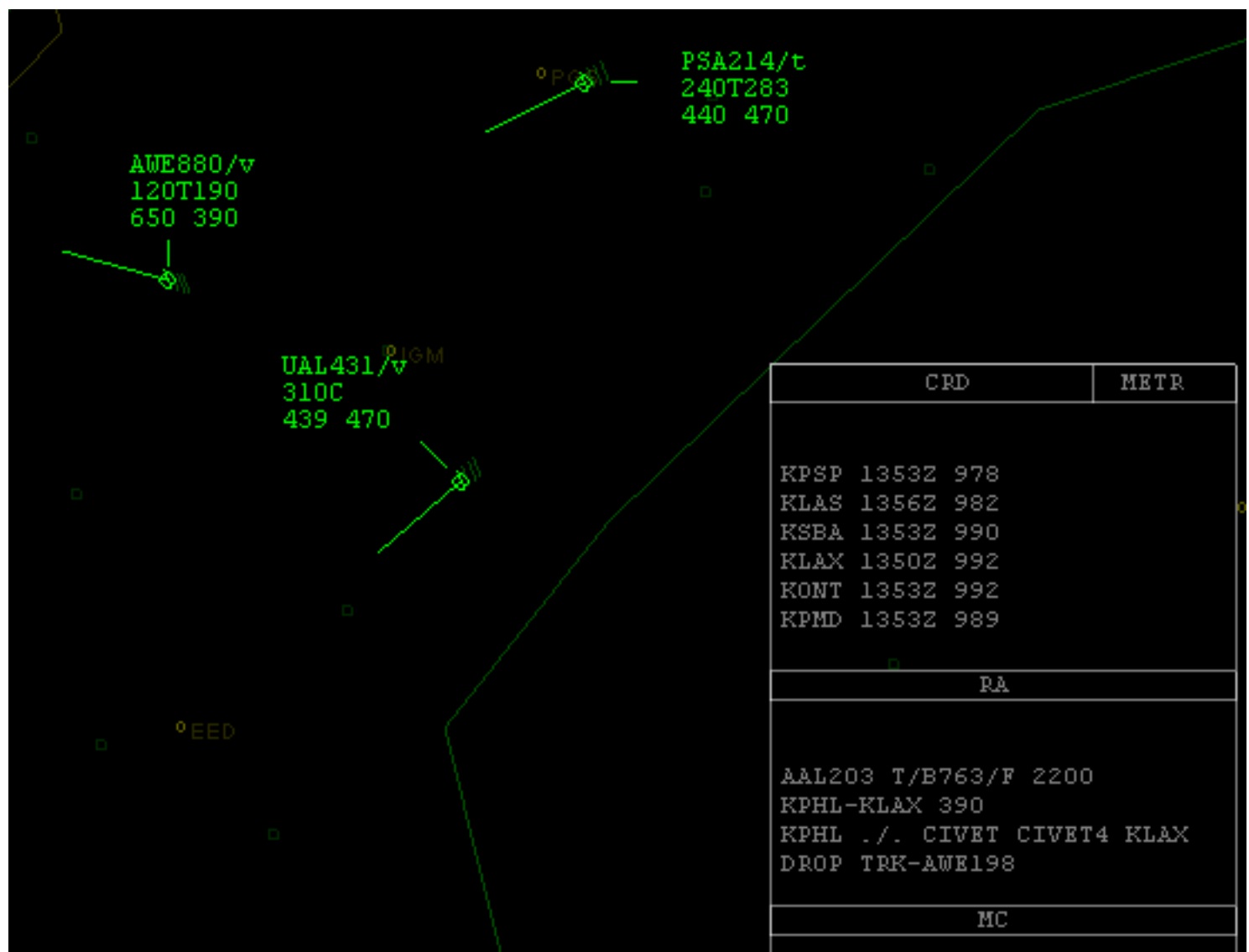
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# Introduction

***Why you should read this entire manual before attempting to use ASRC***

ASRC, as the name implies, is a truly advanced simulated radar client enabling the controller to manage simulated air traffic in a way that closely matches actual radar procedures. ASRC uses keystrokes and commands that

have been designed to closely approximate those used in ATC facilities. Since these keystrokes and commands form the basic building blocks of ASRC, thorough knowledge of them is a pre-requisite to taking advantage of the rich features of the program. The entire interface has been designed from the ground up. Therefore, you can expect a steep learning curve. After thoroughly reading, and understanding this manual, you will very likely want to work low volume traffic at non-peak hours to familiarize yourself with the interface. After mastering the basic functionality, you will quickly find that you are able to provide a much higher level of ATC service with the tools that ASRC has to offer.

## ***Presumptions***

This manual presumes a sound understanding of air traffic control terminology and procedures. A review of such is beyond the scope of this manual, but may be found [here](#). You may wish to **consult an instructor** if you are unfamiliar with a referenced procedure or term.

## ***Reality vs. practicality***

ASRC is a reality-based controller client. In designing ASRC, we have gone to great lengths to create an interface that enables the simulated controller to manage traffic in as realistic a way as possible. We have tried to include all of the basic tools available to air traffic controllers. Similarly, we have attempted to eliminate many of the “cheats” that have traditionally been available in other controller clients. For example, as in the real world, primary targets (those aircraft who have their transponder turned off, or who are “squawking standby”) have no datatag, and are now unidentifiable. Likewise, targets squawking 1200 only show an altitude readout, and do not show an aircraft ID. In order to provide ATC services to these aircraft, the controller is required to issue a transponder code, and radar identify them. At that point, the target will “tag up”. While we have taken dramatic steps

to improve the realism of the interface, some concessions have been made to enable us to live within the constraints of the simulated ATC world. For example, it is not reasonable to force ATC to radar identify traffic that would normally be with ATC already. An aircraft at FL240 from LAS to LAX would ALWAYS be with ATC in the real world. It is not reasonable to show only altitude and no callsign on these aircraft, and to have to reassign a transponder code to each new aircraft. These are examples of some of the compromises that we have made to foster an all around realistic experience.

Similarly, keystrokes that are used in ASRC closely approximate those used in the Center environment. Because of the complexity and multiplicity of the keystrokes, it would not have been reasonable to require the user to memorize two sets of keystrokes, one for the ARTS-III and one for the DSR interface. Therefore, we have compromised, and settled on one hybrid keystroke set.

## ***Features***

ASRC is rich with new features. Some of the exciting new elements include:

- ARTS-III and DSR interfaces
- alias concatenation
- enhanced alias functions and variables
- the ability to transmit and receive on multiple voice and text frequencies simultaneously
- advanced voice features including controller-to-controller voice communication
- text and voice frequencies set through one interface
- Real-time information transfer between positions
- flight plan amendments propagated through the server
- easy, accurate re-centering, panning

- enhanced tools for handling text AC
- arrival and departure lists
- aircraft coast rather than lag off
- identification of voice/text aircraft in datatag
- maximized screen real estate
- transparent boxes

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## Configuration

This section describes how to setup ASRC, and how to configure user preferences.

### ***Ports and Firewalls***

ASRC uses the following ports:

6809 (TCP) for aircraft data

3782 (TCP and UDP) for air-to-ground communications

3290 (TCP and UDP) for ground-to-ground communications

- **If you are using a firewall, you should open these ports when ASRC is running.**
- **If you are using a network address translation device (NAT) such as a router, or Internet Connection Sharing (ICS), you should forward these ports to the computer on which you are running ASRC.**
- **If you are experiencing difficulties with ASRC, and are using a firewall that does not allow you to open individual ports, reduce the security level, or disable the firewall during ASRC use.**

## ***Load sector file***

To load a sector file:

1. On the **FILE** menu, click **OPEN**
2. Select the sector file that you wish to use
3. Click **OK**

## ***Select Display Mode***

ASRC has several different display modes:

DSR (Display System Replacement) is used by Centers.

ARTS-III mode is normally used by TRACONS.

Tower mode is similar to ARTS-III except that datatags are always turned on.

Ground mode shows limited datatags that are always turned on.

Another mode, to be released in version 2 of ASRC is the Eurocontrol style interface..

To select between the available modes:

1. On the **OPTIONS** menu, click **RADAR TYPE**
2. Move your mouse to the right, and click the desired mode.

## ***Opening, closing, and repositioning windows***

All windows in ASRC are transparent. Radar images and targets may be viewed through most items. Most windows in ASRC may be “rolled” open or closed. To open or close a window, click on its title bar. To reposition a window, drag the window to another location, and drop it there.

## ***ATIS***

To set your ATIS:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Enter your ATIS information into the box labeled **ATIS**
3. Click **OK** to close the **SETTINGS** box

Aliases and alias functions may be used inside of the ATIS to create very useful information for pilots. See *Alias* section below for more detailed description of aliases.

For example, the following ATIS:

```
$MyRW  
$radioname()  
$metar($arr)
```

Will display an ATIS similar to the following:

```
rw.avsim.net/125.80  
Socal Approach  
KLAX 181550Z 26006KT 8SM BKN018 BKN022 20/16 A3003 RMK AO2 SLP167  
T02000156
```

In this example, the voice frequency, and radioname will automatically reflect your current information, even if you change servers, and the metar will be for the requestor's destination airport. Theoretically, you will never need to update your ATIS again.

## **Select keys**

ASRC uses two very important user configurable keys to perform functions on aircraft and on air traffic controllers. You will use these keys constantly, so chose keys with which you are comfortable.

The aircraft select key is used to select an aircraft for radio transmissions. The controller select key is used to select a controller for chat, or to handoff or pointout an aircraft to a controller.

The default aircraft select key is the numpad “+” key (called <asel> throughout the rest of this manual)

The default controller select key is the “\” key (called <csel> throughout the rest of this manual)

To select the Aircraft Select key:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Enter the single character that you wish to use into the box labeled **AIRCRAFT** under **SELECT KEY**

To select the Controller Select key:



1. On the **OPTIONS** menu, click **SETTINGS**
2. Enter the single character that you wish to use into the box labeled **CONROLLER** under **SELECT KEY**

## ***Visibility range***

The visibility range within ASRC will be saved from session to session. For this reason, it is imperative for saving bandwidth on the network that you reduce your range to an acceptable level for each position. You will no longer need very wide visibility ranges in ASRC. Due to recent server modifications, you will see other control positions if your ranges **touch**. This is in contrast to previous server versions, where other controllers had to **fall within** your visibility range to be visible.

## ***Visibility center***

In extreme cases, where you wish to center way off to one end of your airspace, and you are concerned that your range may not overlap with another controller's airspace, you may set a fixed visibility center. This will persist until you restart ASRC or until you load a new sector file.

To set a fixed visibility center, type:

```
.vis POINT <enter>
```

For example:

```
.vis GFS <enter>
```

```
.vis KLAX <enter>
```

or

```
.vis CIVET <enter>
```

To clear a fixed visibility center, type:

```
.vis <enter>
```

## ***Alias File***

To select the alias file:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Click the **BROWSE** button next to the **ALIAS FILE** selection box
3. Select the alias file that you wish to use
4. Click **OPEN**
5. Click **OK** to close the Settings box

ASRC supports new robust alias features. An alias is simply a “macro”. In its simplest form, aliases enable the user to type a short text string, and have it replaced by a much longer string of text.

For example, if you set up an alias in your alias file that says:

**.cdron cleared direct \$1, resume own navigation**

... and on the text input line within ASRC you type:

**.cdron RZS**

... and the aircraft N12345 is currently radioselected, ASRC will send the following message to the pilot:

**N12345, cleared direct RZS, resume own navigation**

All previous alias files are supported, with one caveat. You will need to strip the \$aircraft variable from the beginning of each line. ASRC automatically places the aircraft ID for the currently selected aircraft at the beginning of each alias-based radio transmission.

In ASRC, aliases are “concatenated”. This means that if you type one alias after the next on the input line, it will execute both aliases.

For example, if you set up an alias in your alias file that says:

**.tr turn right heading \$1**

... and you have another one that says:

**.cm climb and maintain \$1**

... and on the text input line within ASRC you type:

**.rt 290 .cm FL280**

... and the aircraft N12345 is currently radioselected, ASRC will send the following message to the pilot:

**N12345, turn right heading 290 climb and maintain FL280**

ASRC supports multiple “arguments” to the aliases. You may pass up to 9 arguments to the aliases.

For example, if you set up an alias in your alias file that says:

**.trcmd turn right heading \$1, climb and maintain \$2, cleared direct \$3 when able.**

... and on the text input line within ASRC you type:

**.trcmd 270 13000 RZS**

... and the aircraft N12345 is currently radioselected, ASRC will send the following message to the pilot:

**N12345, turn right heading 270, climb and maintain 13000, cleared direct RZS when able**

ASRC has many **internal variables** that make aliases extremely powerful.

\$squawk (returns the squawk code assigned to the radioselected aircraft)

\$arr (returns the arrival airport of the radioselected aircraft)

\$dep (returns the departure airport of the radioselected aircraft)

\$cruise (returns the assigned cruise altitude of the radioselected aircraft)

\$temp (returns the assigned temporary altitude of the radioselected aircraft)

\$alt (returns the assigned temporary altitude, if it exists, otherwise returns the assigned cruise altitude of the radioselected aircraft)

\$calt (returns the current altitude of the radioselected aircraft)

\$callsign (returns the controller’s callsign)

\$com1 (returns the primary radio frequency of the controller)

\$myrealname (returns the real name of the controller)

\$winds (returns wind at the destination airport if airspeed >= 30 KTS, and departure airport if <30KTS)

\$myrw (returns the complete voice server and frequency)

\$mypvtrw (returns the complete voice server and frequency, but hides it from serveinfo)

ASRC has many **internal functions** that make aliases even more powerful.

**\$metar(ICAO)** (returns the metar at the **ICAO** airport in the parentheses)  
**\$altim(ICAO)** (returns the altimeter setting at the **ICAO** airport in parentheses)  
**\$wind(ICAO)** (returns the wind at the **ICAO** airport in parentheses)  
**\$dist(POINT)** (returns the distance to the **POINT** (airport, VOR, NDB, or FIX in parentheses)  
**\$oclock(POINT)** (returns the clock position of the **POINT** (airport, VOR, NDB or FIX in parentheses)  
**\$bear(POINT)** (returns the cardinal compass direction from the **POINT** (airport, VOR, NDB, or FIX in parentheses)  
**\$radioname(CC)** (returns the full spoken radio name of controller **CC**, yours if empty parentheses)  
**\$freq(CC)** (returns the radio frequency of controller **CC**, yours if empty parentheses)

Here is an example of the level of sophistication achievable with this enhanced alias language:

If you set up an alias in your alias file that says:

**.rais the airport is at your \$oclock(\$arr) and \$dist(\$arr), report it in sight.**

... and on the text input line within ASRC you type:

**.rais**

... and the aircraft N12345 is currently radioselected, ASRC will send the following message to the pilot:

**N12345, KVCV is at your 11 o'clock and 9 miles, report it in sight.**

Aliases may be used inside of the ATIS to create very useful information for pilots.

For example, the following ATIS:

**\$MyRW**  
**\$radioname()**  
**\$metar(\$arr)**

Will display an ATIS similar to the following:

rw.avsim.net/125.80  
Socal Approach  
KLAX 181550Z 26006KT 8SM BKN018 BKN022 20/16 A3003 RMK AO2 SLP167  
T02000156

In this example, the voice frequency, and radioname will automatically reflect your current information, even if you change servers, and the metar will be for the destination airport of whichever pilot requests it. Theoretically, you will never need to update your atis again.

## ***Position File***

ASRC uses a position file (POF) to standardize features of the controlling experience. This file is used to create unique static controller position ID's for your ASRC radar client.

To load a Position File:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Click the **BROWSE** button next to the **POSITION FILE** selection box
3. Select the alias file that you wish to use
4. Click **OPEN**
5. Click **OK** to close the Settings box

After importing a POF, the two-digit identifiers next to each controller in the controller list (CL) will be the same each time you use ASRC. Consequently, you can memorize two digit controller ID's to be used for handoffs, pointouts, and text communications. Without a POF, ASRC will still function normally; however, controller ID's will be assigned by ASRC and are likely to be different each time you use the program requiring you to look at the CL each time you wish to perform a function requiring the ID. Additionally, ground-to-ground VSCS buttons are created based upon information in the POF. For this reason, you must create a POF prior to creating VSCS buttons for ground-to-ground voice communications.

You may use the ZLA.POF as a template for creation of your own POF. Use a standard text editor, and save the file with the extension “.pof” Be sure to follow the files structure exactly. Do not allow any controllers in the POF to have duplicate controller ID's, or only the first entry will be valid.

Amending the POF file only changes the way controllers appear to you, and does not affect the way other clients see you, or the way that they see other controllers.

The position file uses the following format:

NAME:RNAME:FREQ:SECID:ARTSTAG:CALLPREFIX:CALLSUFFIX:LINE1:LINE2

where:

- NAME = The name you wish to see in drop down lists.
- RNAME = The name you wish to be displayed on the radio for this position.
- FREQ = The unique valid frequency for this position.
- SECID = The two digit sector ID that you wish to use for identifying this controller for handoffs, pointouts, comms, etc.
- ARTSTAG = The single letter or number that you wish to use as an aircraft position indicator for aircraft owned by this controller when in ARTS-III mode.
- CALLPREFIX = The callsign prefix that this controller must be using.
- CALLSUFFIX = The callsign suffix that this controller must be using.
- LINE1 = The first line to display on VSCS ground-to-ground buttons created for this controller.
- LINE2 = The second line to display on VSCS ground-to-ground buttons created for this controller.
- LSQUAWK = LOW END OF SQUAWK RANGE FOR THIS POSITION
- HSQUAWK = HIGH END OF SQUAWK RANGE FOR THIS POSITION

A “-“ in place of RNAME indicates that it is the same as in the previous field.

A “-“ in place of the SECID indicates that you wish to recognize this position as an observer, rather than a valid control position.

For example:

Los Angeles Center:-:125.800:20:C:LAX:CTR:LAX:CTR:7301:7477

Indicates that:

1. The sector name is Los Angeles Center
2. The radio name is Los Angeles Center
3. The valid frequency is 125.800
4. The assigned Sector ID is 20
5. The ARTS tag position indicator will be the letter “C”
6. The callsign prefix must be LAX
7. The callsign suffix must be CTR
8. The VSCS button will display LAX on the first line
9. The VSCS button will display CTR on the second line
10. The lowest squawk code available for assignment by this position is 7301
11. The highest squawk code available for assignment by this position is 7477

When a controller logs on, he will only be tagged with the appropriate controller ID from the POF if the following three items match the POF entry:

1. Callsign prefix (eg. LAX for LAX\_V\_CTR)
2. Callsign suffix (eg. CTR for LAX\_V\_CTR)
3. Frequency (eg. 125.8 for LAX\_V\_CTR)

Note that as long as the controller is on 125.8, the following will all match:

1. LAX\_V\_CTR
2. LAX\_I\_CTR
3. LAX\_CTR
4. LAX\_DH\_CTR
5. LAX\_C\_CTR

It is critical to assign the correct prefix, suffix, and frequency to each entry in the POF. Additionally, it is important for controllers to remember that if they select a non-standard frequency, other controllers may not have the same controller ID and VSCS buttons set up for the controller.

If no squawk range appears on a given line, squawk codes will be assigned from the range entered into the settings window.

## ***Squawk Range***

Using ASRC, the controller assigns unique squawk codes to each aircraft under his control. ASRC uses a range of squawk codes from a pool defined by the user. When an aircraft is radioselected, pressing F9 and then <asel> once again will assign a unique squawk code to that aircraft. It does this by first polling all aircraft **in radio range**, all controllers **in visibility range**, then assigning the next available squawk code from the user-defined range that is not currently in use or reserved by a controller.

To select the range of available squawk codes:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Enter the lower end of the squawk range in the left box, and the upper end in the right box
3. Click **OK** to close the Settings box

## ***VFR Squawk Code***

Set the single code used by VFR aircraft in your area of operation (default 1200).

## ***Transition Altitude***

Set the transition altitude for your area of operation (default 18000).

## ***Conflict Alerts***

In DSR mode, separation conflicts cause the entire datatag to flash. In ARTS mode, the two letters CA appear above each datatag to indicate aircraft in conflict. ASRC enables users to select a distance and altitude separation for each of the two modes (DSR or ASRC). Additionally, you may set a floor, below which you will not see conflict alerts.

To select the conflict parameters:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Enter the distance and altitude separation that will trigger an alert for each mode
3. Click **OK** to close the Settings box

## ***Voice enhancements***

One of the most exciting new features of ASRC is the integration of voice into the controller interface. Using Roger Wilco™ Mark 1D (not included), ASRC channels sound as it wishes, and enables us to use voice for a rich array of functions. Using an interface called the VSCS (Voice Switching & Control System), ASRC now allows us to have the same voice functions as are used in ATC facilities around the world, including:

1. Override
2. Intercom
3. Monitor
4. Group call

To setup voice enhancements:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Click in the box next to **ENABLE VOICE ENHANCEMENTS**
3. Enter the **VOICE SERVER IP ADDRESS**
4. Enter your **VOICE NAME** (the callsign that will appear on the voice channel)
5. Click **OK** to close the Settings box

To select the **push-to-talk** key for the use of voice through ASRC, type:



.rwkey <enter> <push-to-talk key that you wish to use>

We suggest using the right CTRL key to avoid conflicts with other important ASRC keys.

**IMPORTANT: You *must* select the push-to-talk key at least once or you will not be able to use voice through ASRC!**

## ***Event sounds***

To setup event sounds:

6. On the **OPTIONS** menu, click **SOUNDS**
7. On the dropdown menu, select the event for which you would like to assign a sound
8. Click the **BROWSE** button, and select the sound that you would like to attribute to this event
9. Click **OPEN**
10. If you wish to test the sound, click **PLAY**
11. Click **OK** to close the **SOUNDS** box

## ***The DC (Display Configuration)***



The DC is the panel of soft configuration buttons, which by default, resides in the upper left corner of the display. Click on the DC bar to open or close the first level of buttons.

The DC is where most of the day-to-day changes in configuration are made. There are three classes of buttons. One class increments or decrements a value. To increase the value in this button, click in the upper portion of the button. To decrease the value in the button, click in the lower portion of the button. The second class of buttons toggle a function on or off with a single click. The third class of buttons open a sub-menu.

## ***Filters***

ASRC enables controllers to turn off certain aircraft within certain altitude strata.

**USE CAUTION** with the following command. Under most circumstances it should **NOT BE USED**. To set **HARD FLOORS AND CEILINGS** to your airspace strata, through which **NOTHING WILL BE VISIBLE UNDER ANY CIRCUMSTANCES** type:

<F2> **FFFbCCC** <enter> (where **FFF** is a three digit floor in hundreds of feet, and **CCC** is a three digit ceiling in hundreds of feet)

To reset the hard floor and ceiling, type:

<F2> 000b999 <enter>

**The preferred method for turning on and off altitude strata is through buttons on the DC (Display Configuration).** Make sure that the DC is unrolled, revealing the first group of buttons.

The advantages of using the DC to limit altitude strata are that:

1. Handoffs will override any filter settings
2. Pointouts will override any filter settings
3. Filter settings can be set to allow aircraft in arrival and departure lists to override any filter settings.

Click the FILTERS button to open and close the group of buttons pertaining to FILTERS.



The buttons within the FILTERS section determine which aircraft will be displayed. By default all buttons are on, indicating that all aircraft will be displayed at all altitudes.

The following section describes the function of each filter button, which toggles the display of:

1. ALL FDB – full datablocks at all altitudes (this should always be left on)
2. ALL LDB – limited datablocks at all altitudes.
3. ALL VFR – aircraft squawking 1200 at all altitudes.
4. ALL PRIM – all primary targets (this should always be left on)
5. Select Beacon – the beacon slash only for aircraft in arrival and departure lists
6. Select LDB – the beacon slash and limited datablock for aircraft in arrival and departure lists
7. Altitude strata – aircraft in each altitude strata

To turn a button on or off, simply click within the box.

## ***Display Instruments***

The Display Instruments section sets values for various items on the display.



VECTOR sets the length in nautical miles of the vector line (distance line)

HIST sets the number of history trails to be displayed

LEADER sets the default leader line direction

RWYCTR sets the runway centerline length in nautical miles

CRD sets the number of lines to display in the upper panel of the CRD display

RA sets the number of lines to display in the RA portion of the CRD display

LENGTH sets the default leader line length

RINGS sets the distance between range rings

SHARE sets the toggling speed between altitude/groundspeed and scratchpad values in ARTS mode

## ***Colors***

The **COLORS** button opens a panel of buttons to set colors within ASRC. Each button on the sub-panel opens a dialog box enabling customization of ASRC colors.

## Map Features

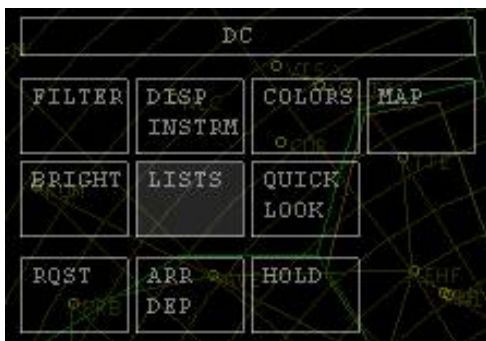
The **MAP** button opens a panel of buttons allowing the controller to toggle on and off various sector file features including airports, VORs, fixes, airways, geographical features, etc.

## Brightness

The **BRIGHTNESS** button opens a panel of buttons allowing the individual setting of brightness for various different ASRC features.

## Lists

The **LIST** button toggles a sub-menu with three additional buttons, the **RQST**, **ARR/DEP**, and **HOLD** buttons.



When **REQUEST**, **ARRIVAL**, **DEPARTURE**, or **HOLD** list items are generated (see [Usage](#)), the respective button turns gray. Pressing the button toggles the display of the desired list on and off to free up additional screen real estate. If new items are added to a list, the list will automatically re-appear.

## Arrival Lists

Arrival lists show aircraft inbound to any number of user-specified airports. This list is displayed automatically whenever entries are added or auto-generated based upon user settings. If arrival entries exist, the arrival list may be toggled off and on using the **LIST** buttons described above.

The format for the arrival list is:

**LETTER AIRCRAFT A APT DIST**

**LETTER** is the single alphabetical letter representing that aircraft in the list. This is used to quickly pull up information about that aircraft.

**AIRCRAFT** is the full aircraft callsign

**A** is the single letter A to let us know that this is an **ARRIVAL**

**APT** is the ICAO **ARRIVAL** airport ID

**DIST** is the distance in miles from the arrival airport

For example:

A N12345	A KLAX 153
B SWA998	A KLAX 50

To add or remove airports that you will be monitoring:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Enter the four letter airport designator that you wish to monitor in the box above **DEPARTURES/ARRIVALS**
3. Click **ADD or REMOVE**
4. Click **OK** to close the Settings box

Aircraft may also be manually added to, or removed from your arrival list. See [usage](#) section.

## ***Departure Lists***

The DEPARTURE LIST shows aircraft outbound from any number of user-specified airports. This list is displayed automatically whenever entries are added or auto-generated based upon user settings. If departure list entries exist, the departure list may be toggled off and on using the LIST buttons described above.

The format for the departure list is:

**LETTER AIRCRAFT D APT SQUAWK**

**LETTER** is the single alphabetical letter representing that aircraft in the list. This is used to quickly pull up information about that aircraft.

**AIRCRAFT** is the full aircraft callsign

**D** is the single letter D to let us know that this is a **DEPARTURE**

**APT** is the ICAO **DEPARTURE** airport ID

**SQUAWK** is the squawk code

For example:

A N12345      D KLAX 7201  
B SWA998      D KLAX 7202

To add or remove airports that you will be monitoring:

12. On the **OPTIONS** menu, click **SETTINGS**
13. Enter the four letter airport designator that you wish to monitor in the box above **DEPARTURES/ARRIVALS**
14. Click **ADD or REMOVE**
15. Click **OK** to close the Settings box

Aircraft may also be manually added to, or removed from your arrival list. See [usage](#) section.  
Aircraft may also be pushed to another controller's departure list. See [usage](#) section.

## ***Range rings***

To use range rings:

1. Set a visible color for the range rings (see colors menu).
2. Turn on range rings in the MAP menu of the DC.
3. Center range rings on a specific location (fix, VOR, or airport) by typing:

.rings **POINT** <enter>

where **POINT** is any fix, VOR, or airport

## ***VSCS (Voice Switching & Control System)***

The VSCS is the communications center of ASRC. When a frequency is changed in ASRC the voice and text frequency are simultaneously changed.

Prior to loading ASRC, and prior to using voice features for the first time, open Roger Wilco, set it to use voice activation, and set it to maximum sensitivity. Then change the mute key to the left control key. Close Roger Wilco prior to launching ASRC. ASRC will launch Roger Wilco automatically once voice enhancements are enabled.

**In ASRC the right control key will be your push to talk key.**

To toggle the VSCS open or closed press the **TAB** key.



To configure the Air-to-Ground buttons:

1. If the **VSCS** is closed, press **TAB** to open the **VSCS**
2. If the first button on the lower left does not say **A/G 1** at the top, click on the **SCRN ALT** button, then **A/G 1**

3. Click **BUTN CNFG**, it will begin flashing
4. Click one of the rectangles in the upper portion of the **VSCS**
5. Enter the frequency that you want the button to represent
6. Enter a station ID that will help you recognize the button
7. Enter the Roger Wilco room frequency as the pilot should type it in (excluding the server)
8. Click **OK**

You may configure as many buttons as you wish. They will be saved when you exit ASRC.

To set your primary frequency:

1. If the **VSCS** is closed, press **TAB** to open the **VSCS**
2. If the first button on the lower left does not say A/G 1 at the top, click on the **SCRN ALT** button, then **A/G 1**
3. Click **PRIM FREQ**, it will begin flashing
4. Click on any already-configured frequency button.
5. It will open and change color.

There are three positions on each pre-configured Air-to-Ground button. The first position is the transmit position (XMTR ON). The second position (unlabeled) is the Roger Wilco frequency connection button. The third position is the receive position (RCVR ON). When any position is green, that function is active. When it is black, it is inactive. If the middle button is black, you are only using text. If the middle button is green, you are successfully connected to the Roger Wilco channel. The **PRIMARY FREQUENCY** is always active in transmit and receive mode, and is indicated by the letters PRIM. The primary frequency is the frequency that is displayed to the pilot and other controllers.

Secondary frequencies may be turned on in either transmit only, receive only, or both. If either transmit or receive are turned off, but the other is on, it applies equally to both voice and text.



In the above example, the controller is able to transmit and receive on 125.800 (text and voice), but on 124.500, he is receiving only (text and voice).





In the above example, the controller is again able to transmit and receive on 125.800 (text and voice), but on 124.500, he is receiving only (this time text only).



To set Ground-to-Ground buttons (for controller-to-controller voice communications):

1. If the **VSCS** is closed, press **TAB** to open the **VSCS**
2. If the first button on the lower left does not say **G/G 1** at the top, click on the **SCRN ALT** button, then **G/G 1**
3. Click **BUTN CNFG**, it will begin flashing
4. Click one of the small rectangles in the upper portion of the **VSCS**
5. Click one of the four button types listed
6. Select the position from the drop down list
7. Click **OK**

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# Advanced Simulated Radar Client (ASRC)

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Mike Evans

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## Usage

This section describes the usage of ASRC. This section presumes that you have already familiarized yourself with the [configuration](#) of ASRC.

### ***Connecting to the network***

To connect to the network:

1. On the **FILE** menu, click **CONNECT**
2. A dialog box will appear
3. Fill in all blanks.
4. Enter a single letter 'TAG' that you wish to use to represent aircraft owned by yourself in ARTS mode.
5. If 'TAG' is left blank, 'TAG' will be decided by the POF, or assigned by ASRC if no POF exists.
6. Click **OK**

If you place a file named ipaddr.txt in the ASRC directory, the server box will be populated with entries from that file.

### ***Disconnecting from the network***

To disconnect from the network:

- On the **FILE** menu, click **DISCONNECT**

## ***VSCS (Voice Switching & Control System)***

**A word of warning: VSCS communication is NOT private. Moreover, unlike regular voice**

**communication in legacy programs, there may be situations (override, monitor) where your microphone WILL BE HOT when you are not transmitting to pilots. While pilots can only hear your transmissions when you are actually transmitting on the frequency, other controllers may be monitoring your microphone at any time. For this reason, consider the implications of background chatter, personal communication, and personal activities when using ASRC's voice features.**

Press <TAB> to open or close the VSCS.

## **Air-to-ground communications**

After you have set up your frequency buttons in the VSCS (see [configuration](#)), select which frequency you will use as your primary frequency by clicking on PRIM FREQ, and then clicking on the button representing your frequency of choice. On the “primary frequency”, you will always transmit AND receive. In SB 2.3b4 (and earlier), this is the only frequency displayed to the pilots in the controller list. If you wish to use the voice channel, click the middle button and verify that it has turned green. If all three buttons representing the frequency are green, you will be ready to transmit, and receive on both voice and on text.

If you are going to be on the frequency with another controller, and may need to override the other controller (eg. no transgression zone, or instructing a student), you may wish to set up the “preempt” function. To do so:

1. click “FUNC ALT”
2. click “PRMPT”
3. click on the frequency that you wish to “preempt”

When you are in preempt mode, if you are transmitting and another ASRC client tries to transmit on the same frequency, they will not be able to transmit.

When the VSCS is closed, the active frequencies are displayed along the bottom of the radar screen. These frequencies displayed above the input line will change color depending upon state. The colors will be as follows:

1. Green = transmit and receive mode
2. Yellow = receive mode only
3. Red = transmit mode only
4. Green box around frequency = connected to voice frequency on this channel
5. Amber box around frequency = currently transmitting (pressing push to talk)
6. Red box around frequency = disconnected from voice frequency on this channel

## **Ground-to-ground communications**

As previously mentioned, ASRC sports exciting new features enabling controllers to coordinate traffic using voice, without leaving their voice frequency. This is achieved through the VSCS. The appropriate buttons must have been setup in the ground-to-ground section of the VSCS (see [configuration](#)).

To “**OVERRIDE**” another controller's position to do a pointout or coordinate traffic:

1. Press <TAB> to open the VSCS.

2. If the first button on the lower left does not say G/G 1 at the top, click the first button, and then click G/G 1
3. Click on the **OVR** button that you have setup for the position that you wish to override.
4. Click on that position.
5. You will hear all of his radio traffic, and anything going through his microphone, **WHETHER OR NOT HE IS PRESSING PUSH TO TALK**.
6. Hold down the right CTRL key, and speak.
7. When you are done, press RLS to release the override.

Alternatively, to override another position, whether or not you have a button set up for that position, you may type:

.ov CC <enter> (where CC is the two-digit identifier of the controller to be overridden)

To cancel or stop overriding another position, you may type:

.rls <enter>

To “**MONITOR**” another controller’s position for educational purposes:

1. Press <TAB> to open the VSCS.
2. If the first button on the lower left does not say G/G 1 at the top, click the first button, and then click G/G 1
3. Click on the **MON** button that you have setup for the position that you wish to monitor.
4. Click on that position.
5. You will hear all of his radio traffic, and anything going through his microphone during radio transmissions, intercom calls, and **WHETHER OR NOT HE IS PRESSING PUSH TO TALK** during overrides.
6. When you are done, press RLS to release the monitor.

To place an “**INTERCOM**” call:

1. Press <TAB> to open the VSCS.
2. If the first button on the lower left does not say G/G 1 at the top, click the first button, and then click G/G 1
3. Click on the button that you have setup for the position that you wish to call (shows his identifier).
4. Click on that position.
5. The button will begin to flash green.
6. The button will turn steady green when the call is in progress.
7. When you are done, press RLS to release the call.

Alternatively, to commence an intercom call with another position, whether or not you have a button set up for that position, you may type:

.ic CC <enter> (where CC is the two-digit identifier of the controller to be overridden)

To cancel or disconnect the intercom call with another position, you may type:

.rls <enter>

When you receive a call, a sound will chime (if setup, see [configuration](#)).

To **ANSWER** a call:

1. Press <TAB> to open the VSCS.
2. If the first button on the lower left does not say G/G 1 at the top, click the first button, and then click G/G 1
3. Click on the orange flashing button
4. It will turn green once you are connected.
5. When you are done, press RLS to release the call.

The controllers in the CL will change color based upon certain events and conditions.

The following CONDITIONS will be displayed in the CL if a controller is:

CONDITION	DISPLAY
Using ASRC	Yellow
Overriding you	Red
Intercom calling you (ringing)	Orange
Intercom call in progress (active)	Green
Monitoring you	Turquoise
Requesting position relief	Pink
Text messaging you	Flashing Gray background
Selected for text messaging	White border

## ***Text radio transmissions***

In normal mode, when regular text is typed on the keyboard, and the <enter> key is pressed, the text is sent out blindly onto any active radio frequencies. If an aircraft is “radioselected” (see below), text typed on the keyboard is sent out onto any active radio frequencies, and the target aircraft will hear a special sound.

To **scroll backward** through the radio communications history, press:

<PGUP>

To **scroll forward** through the radio communications history, press:

<PGDN>

When in scrollbar mode, a red box will appear around the radio communications area.

To **return to normal** radio communications mode, press:

<END>

To **copy the ASRC input line to the windows clipboard**, type:

<CTRL-C>

To **paste items from the windows clipboard to the ASRC input line**, type:

<CTRL-V>

To **save the entire radio communications history to a text file**, make sure that the radio communications area is active, and type:

.log **FILE** <enter> (where **FILE** is a filename)

The history will be saved to the filename, and placed in the path indicated in the “logpath=” entry in the asrc.ini file. By default, this will be the ASRC directory. If you wish to change this, you may edit the “logpath=” entry in the asrc.ini file.

To **copy the entire radio communications history to the windows clipboard**, make sure that the radio communications area is active, and type:

.copy <enter>

## ***The CL (controller list)***



The controller list resides, by default, in the upper right corner of the display. Click on the CL bar itself to toggle it open and closed. Click on the small letter on the right edge of the controller list to toggle the display filter.

The letter on the right end of the title bar indicates the display filter status:

- “B” shows both active controllers and observers
- “A” shows only active controllers
- “O” shows only observers

- “P” shows only positions that are in your POF file
- “C” shows only those individuals who have sent you a message, or whose chat box you have opened at least once during this session

Each active controller will have a two character identifier to the left of his callsign. This two-character identifier is used for handoffs, pointouts, and for controller-to-controller communications.

The POF (Position File) is used to establish static two-character identifiers that may be used to always represent the same position for consistency (see [configuration](#)).

The controllers in the CL will change color based upon certain events and conditions.

The following CONDITIONS will be displayed in the CL if a controller is:

CONDITION	DISPLAY
Using ASRC	Yellow
Overriding you	Red
Intercom calling you (ringing)	Orange
Intercom call in progress (active)	Green
Monitoring you	Turquoise
Requesting position relief	Pink
Text messaging you	Flashing Gray background
Selected for text messaging	White border

Whenever you have unanswered chats, the letters “CL” will be flashing yellow.

## ***Text ground-to-ground communications***

When you receive an incoming message via text, the background behind the calling controller will flash gray. To view the message, click on the controller’s callsign, or type the two-character callsign, and then press the CONTROLLER select key (hereafter called the <tsel> key, see [configuration](#)).

A ground-to-ground text box will appear above the air-to-ground communications area. When it has the focus, this area will be gray.

To **toggle** the **focus** from ground-to-ground to air-to-ground, press:

<enter> (without any other text on the input line)

To **toggle on or off** the ground-to-ground communications area, press:

<tsel>



To **open a communications box** with anyone in the controller list, type:

**DD**<tsel> (where **DD** is the ID to the left of the callsign in the controller list)

The currently-selected individual in the controller list will have a white rectangular box around his callsign. Pressing <tsel> without any two-character identifier will open the last selected controller.

To **open a communications box** with someone **not in the controller list**, type:

.chat **CALL** <enter> (where **CALL** is the full callsign)

To **open a group chat** with more than one callsign, type:

.group groupname [**CALL** or **DD**] [**CALL** or **DD**] <enter> (where **CALL** is the full callsign, or **DD** is the controller ID)

To **add individuals to a group chat**, type:

.a [**CALL** or **DD**] <enter>

To **remove individuals from a group chat**, type:

.r [**CALL** or **DD**] <enter>

To **scroll back** in the communications box, press:

<PGUP>

When in **scroll back** mode, will display a **red outline** to the communications box.

To **scroll forward** in the communications box, press:

<PGDN>

To **return to normal** communications mode, press:

<END>

To **close** a chatbox, and delete all contents, type:

.x <enter>

To send an ATC message to all controllers in range, type “/your message here”

To **copy the ASRC input line to the windows clipboard**, type:

<CTRL-C>

To **paste items from the windows clipboard to the ASRC input line**, type:

<CTRL-V>

To **save an entire chat history to a text file**, make sure that the chat box is active, and type:

.log **FILE** <enter> (where **FILE** is a filename)

The history will be saved to the filename, and placed in the path indicated in the “logpath=” entry in the asrc.ini file. By default, this will be the ASRC directory. If you wish to change this, you may edit the “logpath=” entry in the asrc.ini file.

To **copy an entire chat history to the windows clipboard**, make sure that the chat box is active, and type:

.copy <enter>

## ***The CRD***

The CRD (Computer Readout Display) is the area to the lower right of the display. It is divided into three areas, the CRD, the RA (Response Area), and the MC (Message Composition).

The CRD portion may be toggled back and forth between two modes. One mode will display all transponder codes of aircraft that are being tracked, and of those that will be automatically tagged. And the other mode will display all altimeter settings being followed.

The RA is where responses to commands are displayed. This is where abbreviated flight plans, metars, and responses to almost every command are displayed.

The MC is where error messages are displayed.

## ***Functions and dot commands***

Most of the advanced functions in ASRC are implemented using standard function keys <F1> through <F9>. Each function key has a corresponding text command beginning with a “.” that is inserted into the input line when the function key is pressed. These text commands may be used in lieu of the function keys.

For example, to open or close the datatag for an aircraft the following two commands are equivalent:

<F1> {click on aircraft}  
.QP {click on aircraft}

To quickly learn the text commands, watch the command that is inserted into the input line when you press a function key.

## ***Inserting altimeter settings***

To insert altimeter settings that are to be monitored, press F2, then the four digit ICAO code for up to 6 airports. To remove an ICAO code, press F2, then the ICAO code to remove.

The altimeter settings will automatically update whenever they change.

## ***Checking weather***

To check weather for any facility, press:

<F7> **ICAO** (where ICAO is a four digit ICAO airport code)

The result will appear in the RA.

To check weather for the arrival airport of a given aircraft:

1. Radioselect the aircraft (CALLSIGN<asel>)
2. Press <F7><asel>

To check weather for the departure airport of a given aircraft:

1. Radioselect the aircraft (CALLSIGN<asel>)
2. Press <shift F7><asel>

## ***Understanding datatags***

This is perhaps the most important section of the user manual. Understanding datatags is fundamental to the successful use of ASRC.

As previously mentioned, ASRC has two main user modes:

1. DSR (Display System Replacement) mode, used in ARTCC's (Centers)
2. ARTS-III mode, used in TRACON's.

Two additional modes, Tower and Ground, are basically ARTS-III type modes. Tower and ground mode differ from ARTS-III mode in the following ways:

1. Tower mode datatags are always turned ON.
2. Ground mode datatags show CALLSIGN ONLY, and are always turned ON.

The datatags are entirely different in the two modes and will be discussed separately.

### **DSR mode datatags:**



A.

This is a primary target (the transponder is off, or on standby).



B.

This is a target squawking 1200 (or other VFR code, see [configuration](#)). The altitude of the target is displayed.



C.

This is a “Mode C intruder”. It is a target that falls within your altitude strata (altitudes turned on in your filters), AND is not squawking 1200, AND is **NOT OWNED BY ANYONE**. The target shows it’s transponder code, and its current altitude. If you wish to see more information about this type of aircraft, press F1, and click the target.



D.

When you press F1 and click on the target, a full datablock will appear, showing more information about the aircraft. To close the datablock, press F1 and click the target again. In figure D, this aircraft is a voice enabled aircraft (/v), level at it’s assigned cruise altitude of FL410 (410C), with a computer ID of 247, and a groundspeed of 490 KTS.



E.

This is a target **OWNED BY ANOTHER CONTROLLER**.



F.

Again, if you press F1 and click on the target, a full datablock will appear, showing more information about the aircraft. To close the datablock, press F1 and click the target again. In this datablock we see that the aircraft is a voice enabled aircraft (/v), assigned a temporary altitude of 12000 (120T), currently at 12100 (121), with a computer ID of 953, owned by sector 1W (R###O-1W)



G.

This is a target **NOT OWNED BY ANYONE, AND ABOVE OR BELOW YOUR ALTITUDE STRATA.**



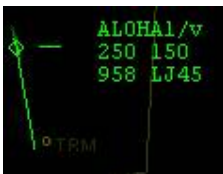
H.

This is a target owned by someone else, assigned a cruise altitude of 7000 (070), descending out of 11100 (v111), with a computer ID of 953, and we see that it is a Boeing 737. Note that the lower right field toggles continuously between groundspeed, destination/scratchpad, and aircraft type in all modes, except when owned by someone else, the groundspeed is replaced by the ownership info.



I.

This is an aircraft **OWNED BY YOURSELF** with no voice tag, assigned a cruise altitude of FL250, who is level at 15000, has a computer ID of 958, and has a groundspeed of 310 KTS. Notice that the position indicator is a backslash with a triangle over it. The triangle indicates that he is more than 5 NM off course from his flight planned route. He will become a diamond when he is within 5 NM of his flight planned or amended route. Note that the distance line is user configurable (see [configuration](#)).



J.

This is an aircraft within 5 NM of his flight planned or amended route. Notice the diamond shaped position indicator.



K.

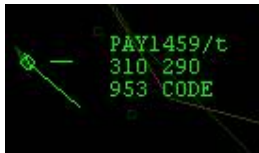
This is an aircraft assigned a cruise altitude of FL250, climbing out of 1600.



L.

This is an aircraft assigned a transponder code, but on a different transponder code. The transponder code that he is currently on is displayed in the lower right field of the datablock (3202). Once he

changes his transponder to the assigned code, it will revert to a normal datatag.



M.

This is an aircraft on a **DUPLICATE TRANSPONDER CODE**, a code that is also being squawked by another aircraft. If you see the word **CODE**, in the lower right field of the datablock, you know to reassign a new transponder code to this aircraft.



N.

This is an aircraft assigned a final altitude of FL410, climbing out of FL348 who is in handoff mode from us to sector 0B (H-OB). When accepted the lower line will read R247O-OB. See figure F. for an example of someone already accepted by another facility.



O.

This aircraft was assigned a cruise altitude of FL260, was at that cruise altitude of FL260, and descended 300 feet or more below that altitude without a clearance without the controller having entered the descent into the computer. Notice the (-) sign. If he were more than 300 feet above the assigned altitude, and had already been at the assigned altitude, he would have a (+) sign between the two altitudes.



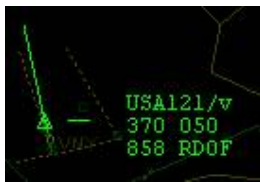
P.

This aircraft is identifying. Notice the three bars over the position indicator.



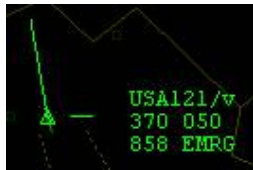
Q.

This aircraft is squawking 7500.



R.

This aircraft is squawking 7600.



S.

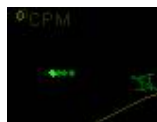
This aircraft is squawking 7700. The whole datatag will flash.



T.

This aircraft is in **COAST** mode. It has either lagged off the system, been disconnected, or the user has intentionally disconnected. The aircraft will continue to “coast” along on the last known heading and at the last known speed. This is not real data, and it is only an assumption. Do not rely on the position to be accurate. The aircraft may have turned, or changed speed since he was lost from radar. When the aircraft returns, the coasting icon will change to a real datatag. To destroy a coasting target, press F4 and click on the aircraft to “drop track” (see below).

## ARTS mode datatags:



A.

This is a primary target (the transponder is off, or on standby).



B.

This is a target squawking 1200. It shows altitude and groundspeed.



C.

This is a target that **is not squawking 1200, AND is NOT OWNED BY ANYONE**. Again it shows altitude and groundspeed. If you press F1 and click on the target, it will display more information about the aircraft.



D.

This is a target owned by another sector, sector W. In ARTS mode, active sectors have two digit identifiers on the controller list, but only one letter shows up as the position indicator on the datatag. This is user configurable in the POF (see [configuration](#)).



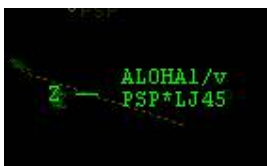
E.

Assuming that you, yourself, are ARTS tag D, this is an aircraft **OWNED BY YOURSELF**. In this example the aircraft is voice enabled, at FL292, has a groundspeed of 510 KTS and is a heavy.



F.

ARTS datatags alternate data on the second line. At first, it may be confusing. When the asterisk is present, the information being viewed is supplementary information. Learn to read current altitude and groundspeed when the asterisk is absent. In this example the asterisk is present, and we see that the last assigned altitude was FL250, and that the aircraft is a LJ45.



G.

The second line of the ARTS datatag alternates through several different informational modes, always returning to ALT GS in between each of the other informational modes. When in informational mode, the left field alternates between DESTINATION or SCRATCHPAD, and CURRENT ASSIGNED ALTITUDE. The right field is always the aircraft type.



H.

This is an aircraft assigned a transponder code, but on a different transponder code. The transponder code that he is currently on is displayed in place of the groundspeed (3202). Once he changes his transponder to the assigned code, it will revert to a normal datatag.



I.

This is an aircraft on a **DUPLICATE TRANSPONDER CODE**, a code that is also being squawked by



another aircraft. If you see the word **CODE**, in place of the groundspeed, you know to reassign a new transponder code to this aircraft.



J.

This aircraft is being handed off to the sector represented in the POF by the letter “B”. Notice the “B” between the altitude and the groundspeed. Once accepted the “D” indicating that YOU own the aircraft will turn to a “B” and the second line of the datatag will no longer display the “B” between altitude and groundspeed.



K.

This aircraft is identifying.



L.

This aircraft is squawking 7500.



M.

This aircraft is squawking 7600.



N.

This aircraft is squawking 7700.



O.

These two aircraft are in conflict alert status (see [configuration](#) to customize CA/CA thresholds).



P.

This aircraft is in **COAST** mode. It has either lagged off the system, been disconnected, or the user has intentionally disconnected. The aircraft will continue to “coast” along on the last known heading and at the last known speed. This is not real data, and it is only an assumption. Do not rely on the position to

be accurate. The aircraft may have turned, or changed speed since he was lost from radar. When the aircraft returns, the coasting icon will change to a real datatag. To destroy a coasting target, press F4 and click on the aircraft to “drop track” (see below).

To move the position of a datatag, type:

<F1> **P** ACFT (where “**P**” is a key on the numpad representing the desired direction of the leader)

To change the direction and length of the datatag leader, type:

<F1> **P/L** ACFT (where “**P**” is a key on the numpad representing the desired direction of the leader, and “**L**” is the length 1-9)

To change just the length of the datatag leader, type:

<F1> **/L** ACFT (where “**L**” is the length 1-9)

## ***Selecting and performing functions on aircraft***

There are many ways to perform functions on aircraft. Depending on the situation, you may:

1. Radioselect
2. Use a list letter
3. Click (slew) on the target
4. Use the CID (computer ID)
5. Use the Callsign

### **Radioselect**

To “radioselect” an aircraft, type any unique portion of the callsign, and press the AIRCRAFT select key (hereafter called the <asel> key, see [configuration](#)). If a successful match was found, the aircraft ID will be displayed immediately above the text input area. If no such unique match exists, you will hear an audible alert (if enabled, see [configuration](#)), and the area immediately above the text input area will be blank.

You may radioselect ANY AIRCRAFT, whether owned, unowned, visible, or invisible.

Once an aircraft is radioselected, if you wish to perform a function on that aircraft, you may press a function key, or use a key sequence, and then press the <asel> again, to have that function be executed on the currently radioselected aircraft.

### **List Letter**

When a request, hold, departure, arrival, or coast list is displayed, each aircraft in the list has a unique letter preceding its callsign. In lieu of typing a portion of the callsign followed by the <asel>, you may press the single letter next to the aircraft in the list, followed by the <asel>. This will radioselect that aircraft.

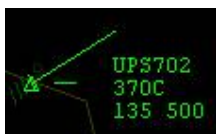
## Click (slew) on the target

For many functions, you may press the function key, or enter the keyboard equivalent, and then click (slew) on the target.

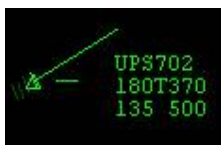
## Use the CID

The most common way to perform functions on aircraft when busy and in DSR mode is by using the CID. This is the number displayed in the lower left field of the datablock. To perform a function using the CID, press the function key, or enter the keyboard equivalent, enter any required values, and then enter the CID followed by the <enter> key.

Example: To change the temporary altitude of UPS702 to FL180



Press <F8> 180 135 <enter>, and you'll see:



## Use the callsign

To perform a function using the callsign, press the function key, or enter the keyboard equivalent, enter any required values, and then enter the callsign followed by the <enter> key

**In the following sections the term “ACFT” shall mean selecting an aircraft with any of the previous selection methods.**

**In most cases ANY of the selection methods will work.**

For example, if your <asel> key is the default “+” key, any of the following will handoff an aircraft whose **callsign is N12345** and whose **CID is 876** to sector **1W**:

- <F4> 1w 876<enter>
- <F4> 1w {mouse click on aircraft}
- N12345+  
<F4> 1w+

- <F4> 1w N12345<enter>

In **DSR** mode, the most common and most useful way to perform functions will be by **CID**.

Syntax:

<function key> value CID

Example:

The following example sets the assigned cruise altitude (see below) of the aircraft whose CID is 943 to FL240...

<F5> 240 943

In **ARTS** mode, the most common and most useful way to perform functions will be by **RADIOSELECTING**.

Syntax:

CALLSIGN <asel> <function key> value <asel>

Example:

The following example sets the voice/text tag to voice...

N12345 <asel> <F9> v <asel>

## ***Transponder codes***

ASRC allows controllers to assign unique transponder codes. **The CODE key is <F9>.**

To have ASRC **automatically** assign a transponder code to an aircraft (from an available pool of transponder codes specified in the POF file):

1. Radioselct the aircraft using <asel>
2. Press <F9> <asel>

To manually assign a transponder code to an aircraft, press:

<F9> **CODE** ACFT

(where **CODE** is any four digit transponder code, and ACFT is any aircraft selection method.)

When you assign a code to an aircraft, that code is always placed into your “code list”. The “code list” may be viewed by toggling between METR and CODE in the CRD. The code list displays all transponder codes that are being followed by you. Any aircraft on a code that is in your code list will automatically become tagged up once airborne.

All “tracked” aircraft will automatically have their code placed into your code list.

To remove a code from the code list (does not work on tracked aircraft), type:

<F9> **CODE** <enter>

Wrong, and duplicate transponder codes are flagged to the controller in the datatag (see Understanding Datatags), and in the RA when the abbreviated flight plan is viewed.

## ***Tagging***

To “tag up” an aircraft (make him go from a limited datablock to a full datablock), use the <F1> **key** with any selection method above. To go to a minimal datatag use the <F1> **key** again. You may not go to a minimal datatag on aircraft that you own.

## ***Tracking***

Tracking is the heart of ASRC, and is the most common function (next to dropping track) that you will use. Aircraft in ASRC are “tracked” (owned) by one and only one controller. Each ASRC client knows who owns whom. You will always know if, and by whom, an aircraft is being handled. In order to perform a handoff you must be the owner of the aircraft. In order to change certain aircraft parameters, including cruise, and temporary altitudes, scratchpad values, etc. you must be tracking the aircraft. Controllers cannot change these values an aircraft is being tracked by someone else.

To **track** an aircraft, type:

<F3> ACFT

To **drop track** on an aircraft, type:

<F4> ACFT

Since legacy clients cannot “drop track”, when a legacy controller client has accepted a handoff from an ASRC client, the aircraft will appear to be owned by the controller using the legacy client until either the legacy client hands off to an ASRC client, or until the pilot disconnects. If the aircraft lands and then departs into another controller’s airspace, he may appear to be owned by the previous legacy client controller. In such a case it may be necessary to “forcefully” drop track.

To **force drop track** on an aircraft, type:

<F4> /OK ACFT

When you hand an aircraft off to another controller, and the handoff is accepted, you automatically drop track on that aircraft.

When you accept a handoff from another facility, you do so by tracking the target (pressing <F3> with any selection method above)

## ***Viewing flight routes***

You can **view the route** of any aircraft with a valid flight plan by using **<SHIFT F6>** with any selection method above.

## ***Assigning cruise altitude***

When an aircraft's cruise altitude is changed, all changes are propagated to other controllers, and the flight plan is automatically amended, and sent to the server.

To **assign a cruise altitude** to an aircraft, type:

**<F5> ALT ACFT <enter>** (where **ALT** is up to three numerical digits indicating hundreds of feet)

To **assign a block cruising altitude** to an aircraft, type:

**<F5> ALTBALT <enter>** (where the first **ALT** is the block floor and the second **ALT** is the block ceiling)

To take an IFR aircraft **and make it a VFR aircraft**, type:

**<F5> VFR ACFT**

To take a VFR aircraft **and make it an IFR aircraft**, type:

**<F5> ALT ACFT** (where **ALT** is the assigned cruise altitude)

## ***Assigning temporary altitude***

When an aircraft's temporary altitude is changed, all changes are propagated to other controllers within visibility range.

To assign a cruise altitude to an aircraft, type:

**<F8> ALT ACFT <enter>** (where **ALT** is up to three numerical digits indicating hundreds of feet)

## ***Using the scratch pad***

By default, the "scratch pad" shows the destination of the aircraft. It is displayed in both DSR and ARTS modes. You may change from the default value to any three character alphanumeric string.

To **insert a scratch pad entry**, type:

**<INS> ABC ACFT <enter>** (where '**ABC**' is up to three alphanumeric characters)

To **clear the scratch pad**, and **display the destination airport** in the scratchpad, perform the same function, but without a string:

**<INS> ACFT**

If the aircraft is **being tracked by another controller**, and you need to update the scratch pad, you may do so by typing:

<INS> /OK **ABC** <enter> (where 'ABC' is up to three alphanumeric characters)

When an aircraft's scratch pad value is changed, all changes are propagated to other controllers within visibility range

## ***Voice/text/receive flags***

ASRC will look at the pilots flight plan. If it finds certain elements in the comment section, it will appropriately place a flag in the datatag to indicate its voice/text/receive status.

If ASRC finds :

/v/ in the comment section, it automatically set the datatag to callsign/v indicating that the pilot uses voice  
/t/ in the comment section, it automatically set the datatag to callsign/t indicating that the pilot uses text  
/r/ in the comment section, it automatically set the datatag to callsign/r indicating that the pilot can only receive voice

If there is no tag in the comment section the controller may manually enter the voice/text/receive flag.

The syntax is:

<F9> **C** ACFT <enter> (where 'C' is either 'v', 't', or 'r')

When an aircraft's voice/text/receive flag is changed, all changes are propagated to other controllers within visibility range

## ***Accepting handoffs***

To accept a handoff, simply **TRACK** the aircraft by using the <F3> **key** with any of the selection methods above.

## ***Initiating handoffs***

To initiate a handoff, you basically **DROP TRACK** to another controller using the <F4> **key** with any of the selection methods above.

The syntax is:

<F4> **CC** ACFT (where **CC** is the two digit identifier next to the controller in the controller list)

Examples:

<F4> **CC CID** <enter> (where **CID** is the aircraft's computer ID)

<F4> **CC** {mouse click on aircraft}

**CALLSIGN**<asel>

<F4>**CC**<asel>

<F4> **CC CALLSIGN**<enter>

To handoff **ALL AIRCRAFT OWNED BY YOU** to controller dd, type:

.transfer /ok **CC**

## ***Canceling handoffs***

To cancel a handoff once it has been initiated, but not yet accepted:

**TRACK** the aircraft by using the **F3 key** with any of the selection methods above.

If the receiving controller is using ASRC, this will stop the handoff indication on the receiving controller's scope. If the receiving controller is using a legacy radar client, it may continue indicating a handoff request.

## ***Refusing handoffs***

To refuse a handoff from another sector:

**DROP TRACK** on the aircraft by using the **F4 key** with any of the selection methods above.

If the initiating controller is using ASRC, this will stop the handoff indication on the initiating controller's scope. If the initiating controller is using a legacy radar client, it may continue indicating a handoff request.

## ***Pointouts***

To cause a target to appear on any other controller's scope, to assist in pointout use the F1 key followed by that controller's identifier.

The syntax is:

<F1> **CC ACFT** <enter> (where CC is the two digit identifier next to the controller in the controller list)

You will still need to communicate the pointout information via text or voice.

If the receiving controller is using a legacy radar client, this function has no effect.

## ***Flight plans***

An abbreviated flight plan (only that portion with fixes that are in your sector file) may be viewed in the RA by either left clicking on the aircraft's datatag, or by radioselecting the aircraft.

To view the complete flight strip, use the <**F6**> key with any selection method above.



AAL214	I	310		WORTH3 ABI J4 SSO SUN333 KPHX	6214
T/B763/F	KDFW-KSEA				
T4506329	NONE				
453 01		310		FSMETEO, 767PIC	AMENDED

To close the flight strip, click on it, or use the <F6> key, followed by the <enter> key.

## Flight plan amendments

Flight plan amendments in ASRC are propagated through the server and to all other radar clients, including legacy programs.

There are several types of flight plan amendments available. You may change the requested altitude, assigned cruise altitude, true airspeed, route, beacon code.

If you do not have a flight strip visible, you must select the aircraft using any of the above methods.

Otherwise, if you **open, and have a flight strip displayed**, the syntax is:

.am typ **TYP** <enter> (where **TYP** is the four character aircraft type)  
.am ral **ALT** <enter> (where **ALT** is up to three digits representing altitude in hundreds of feet)  
.am alt **ALT** <enter> (where **ALT** is up to three digits representing altitude in hundreds of feet)  
.am spd **SPD** <enter> (where **SPD** is up to three digits representing true airspeed in KTS)  
.am bcn **BCN** <enter> (where **BCN** is a four digit transponder code)  
.am rmk **RMK** <enter> (where **RMK** is as follows  
this.is.my.remark.separated.by.a.mandatory.punctuation.of.any.kind.except.for.white.space)

The next function is the most useful, but the most complex.

Using the following flight strip as an example:

AAL214	I	310		WORTH3 ABI J4 SSO SUN333 KPHX	6214
T/B763/F	KDFW-KSEA				
T4506329	NONE				
453 01		310		FSMETEO, 767PIC	AMENDED

.am rte abi.sso (removes J4 from the route)  
.am rte kdfw.ksea (removes the entire route except for the departure and arrival airports)  
.am rte abi.fix1.fix2.sso (inserts fix1.fix2 between ABI and SSO)  
.am rte @ksfo (changes the departure airport. You may use the up arrow in lieu of the @ symbol)  
.am rte ksea@ (changes the arrival airport. You may use the down arrow in lieu of the @ symbol)

To take an IFR aircraft and **make it a VFR aircraft**, type:

<F5> VFR ACFT

To take a VFR aircraft and **make it an IFR aircraft**, type:

<F5> **ALT** ACFT (where **ALT** is the three digit assigned cruise altitude in hundreds of feet)

When an aircraft's flight plan is amended, all changes are propagated through the server to all other controllers, even those using legacy controller clients.

## ***Flight plan creation***

ASRC allows creation of complete VFR or IFR flight plans.

**CAUTION:** Creating a new flight plan for an aircraft will **COMPLETELY AND IRREVOCABLY DELETE** the existing flight plan.

To create an **IFR flight plan** for an aircraft, radioselect the aircraft, and type:

.fp **TYP ALT RTE** <asel>

where:

**TYP** = four digit aircraft type

**ALT** = cruise altitude

**RTE** = complete route starting with origin, ending with destination, and separated by <periods> with no spaces.

Example:

.fp B737 130 klax.laxx3.trm.psp

To create a **VFR flight plan** (for example, an AC requesting VFR flight following), radioselect the aircraft, and type:

.vp **TYP RTE** <asel>

Example:

.vp C812 ktoa.shoreline.kvny

## ***RSB (Range/Speed/Bearing)***

The RSB function allows quick calculation of range, speed and bearing. There are several methods for using it.

Method 1:

1. Double click anywhere on the scope, and hold down the left mouse button.
2. Drag to any other location.
3. Release.

4. Read the values in the RA.

Method 2:

1. Type .rsb **FIX** ACFT (where **FIX** is any ICAO airport, VOR, NDB or fix)
2. Read the values in the RA.

Method 3:

1. Type .rsb **FIX1 FIX2** (where **FIX1** and **FIX2** are any two ICAO airports, VOR's, NDB's, or fixes)
2. Read the values in the RA.

The RA will display:

H: 279 099 (heading to and from the two points)

D: 74.7 (distance between two points)

T: 11 (the time to destination, if method # 2 is used)

## ***Centering, panning, and zooming***

To **center** the scope anywhere:

{double right click}

To **pan** the scope:

{right click and drag}

To **center on any airport, fix, VOR or NDB**, type:

**FIX** <HOME> (where **FIX** is any ICAO airport, VOR, NDB or fix)

To **zoom in**:

press <F11>

or {mouse wheel up}

To **zoom out**:

press <F12>

or {mouse wheel down}

## ***Individual fixes***

To turn on and off individual fixes, type:

.ff **FIX** [**FIX FIX ...**] <enter>

## ***Filters and Quick Look***



The filters section was discussed in the [configuration](#) section. The **QUICK LOOK** button disables all filters, and reveals every aircraft. This is useful if you have set filters and wish to see an aircraft that may be outside of your visible altitude strata.

## ***Request list***

When very busy, sometimes it is useful to have a list of aircraft that have requested something. For this purpose, ASRC uses a REQUEST LIST. This list is displayed automatically whenever entries are added. If REQUEST LIST entries exist, the REQUEST LIST may be toggled off and on using the LIST buttons described in the [configuration](#) section.

To add an aircraft to the request list, type:

CALLSIGN <asel> <asel>

To remove an aircraft from the request list, again type:

CALLSIGN <asel> <asel>

```
A CYB578 R KBFI KLAX 0:21
B ALOHA1 R KVMY KSFO 0:18
C MAX434A R KOAK KPHX 0:15
```

In the request list, the first column is the aircraft list letter, followed by the callsign, then an “R” for REQUEST, then the departure and arrival airports, then the number of minutes and seconds since having been placed in the queue.

An alternate method for adding or removing aircraft from your request list is to type the following:

.ql r ACFT

If an aircraft has signed off from the network, it is impossible to radioselect him. To remove the aircraft, type:

.ql r **CALL** <enter> (where **CALL** is the full callsign)

## ***Hold list***

The HOLD LIST contains a list of all aircraft assigned a holding pattern. This list is displayed automatically whenever entries are added. If HOLD LIST entries exist, the HOLD LIST may be toggled off and on using the LIST buttons described in the [configuration](#) section.

To add aircraft to this list type:

.ql h **FIX MINS** ACFT (where **FIX** is the fix over which the aircraft will hold, and **MINS** is the number of minutes from now to expect further clearance)



A	CYB1742	H	FIM	340	00:19
B	MAX434A	H	AVE	330	00:19
C	ALOHA1	H	AVE	240	00:21

In the hold list, the first column is the aircraft list letter, followed by the callsign, then an “H” for HOLDING, then the fix, then the last assigned altitude, then the expect further clearance time.

To remove an aircraft from the list, type:

.ql h ACFT

## ***Departure list***

The DEPARTURE LIST shows aircraft outbound from any number of user-specified airports. This list is displayed automatically whenever entries are added or auto-generated based upon user settings. If DEPARTURE LIST entries exist, the departure list may be toggled off and on using the LIST buttons described above.

The format for the departure list is:

**LETTER AIRCRAFT D ARR-DEST SQUAWK**

**LETTER** is the single alphabetical letter representing that aircraft in the list. This is used to quickly pull up information about that aircraft.

**AIRCRAFT** is the full aircraft callsign

**D** is the single letter D to let us know that this is a **DEPARTURE**

**ARR** is the four digit **DEPARTURE** airport ID

**DEST** is the four digit **ARRIVAL** airport ID

**SQUAWK** is the squawk code

For example:

A N12345     D KLAX-KSAN 7201  
B SWA998     D KLAX-KLAS 7202

To add or remove airports that you will be monitoring:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Enter the four letter airport designator that you wish to monitor in the box above **DEPARTURES/ARRIVALS**
3. Click **ADD or REMOVE**
4. Click **OK** to close the Settings box

To manually add or remove someone to your departure list, type:

.ql a CALLSIGN <enter>

To manually push someone to the departure list of another controller, type:

.ql d CC <enter> (where **CC** is the two digit controller ID from the controller list)

## ***Arrival list***

ARRIVAL LISTS show aircraft inbound to any number of user-specified airports. This list is displayed automatically whenever entries are added or auto-generated based upon user settings. If ARRIVAL LIST entries exist, the ARRIVAL LIST may be toggled off and on using the LIST buttons described above.

The format for the arrival list is:

**LETTER AIRCRAFT A APT DIST**

**LETTER** is the single alphabetical letter representing that aircraft in the list. This is used to quickly pull up information about that aircraft.

**AIRCRAFT** is the full aircraft callsign

**A** is the single letter A to let us know that this is an **ARRIVAL**

**APT** is the four digit airport ID

**DIST** is the distance in miles from the arrival airport

For example:

A N12345    A KLAX 153  
B SWA998    A KLAX 50

To add or remove airports that you will be monitoring:

1. On the **OPTIONS** menu, click **SETTINGS**
2. Enter the four letter airport designator that you wish to monitor in the box above **DEPARTURES/ARRIVALS**
3. Click **ADD or REMOVE**
4. Click **OK** to close the Settings box

To manually add or remove someone to your arrival list, type:

.ql a CALLSIGN <enter>

## ***Traffic alerts***

To quickly issue traffic advisories to text aircraft, radioselect the aircraft to whom you would like to issue advisories, and type:

.ta {click} (where click means clicking on the target traffic)

Be sure to insert a space after the .ta command

## ***Non-responsive aircraft***

ASRC has an internal function which causes it to send a private message to an aircraft similar to:

N12345, contact me on 124.5

To use this function, type:

<HOME> {click on the aircraft}

If successful, you will see a message in the RA that says “msg sent”

## ***Request position relief***

To request a position relief (break), type:

.break

To cancel a position relief request, type:

.nobreak

When you have requested position relief, your callsign (above the clock) will turn pink.

### ***Send a message to all of your tracked aircraft***

To send a message to all of your tracked aircraft, type:

.pan **MESSAGE** <enter> (where **MESSAGE** is any text message with or without white space)

### ***Send a message to all Supervisors online:***

To send a message to all Supervisors online, type:

.wallop **MESSAGE** <enter> (where **MESSAGE** is any text message with or without white space)

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## Appendix

### System Requirements

Pentium-II 300 or faster

64 MB RAM minimum, 128 MB RAM recommended

5 MB Hard Drive space

Video Card supporting OpenGL, and 800 x 600 minimum screen resolution, 1024 x 768 recommended.

Microsoft Windows 98 or later

Internet connection

Roger Wilco Version Mark 1D or later (for voice)

### Supervisor/Administrator commands

To toggle between full open datablocks for EVERY aircraft, regardless of status, type:

```
.seeall <enter>
```

To disconnect an individual from the network:

```
.kill CALLSIGN <enter>
```

or

```
.kill {click on aircraft}
```

To broadcast a message to the entire network, type:

```
.wall MESSAGE <enter> (where MESSAGE is any text message  
with or without white space)
```

To find out information about an aircraft or controller:

```
.inf CALLSIGN <enter> (the information comes in as a private  
message)
```

or

```
.inf {click on aircraft}
```

## Ports

# ***Ports and Firewalls***

ASRC uses the following ports:

6809 (TCP) for aircraft data

3782 (TCP and UDP) for air-to-ground communications

3290 (TCP and UDP) for ground-to-ground communications

- **If you are using a firewall, you should open these ports when ASRC is running.**
- **If you are using a network address translation device (NAT) such as a router, or Internet Connection Sharing (ICS), you should forward these ports to the computer on which you are running ASRC.**
- **If you are experiencing difficulties with ASRC, and are using a firewall that does not allow you to open individual ports, reduce the security level, or disable the firewall during ASRC use..**

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## Walkthrough

This section takes the user through a brief tutorial. This section presumes that you have already familiarized yourself with the [configuration](#) and [usage](#) of ASRC.

### *IFR departure*

In this example, we will follow a typical IFR flight from its request for IFR clearance to its handoff to another facility. I will assume that you have correctly configured sound and are on an appropriate frequency. This tutorial will be in DSR mode.

1. The aircraft calls with “Los Angeles Center, N12345 at KSBA, information Charlie, IFR to KLAX”
2. Perhaps you didn’t hear all of the callsign, but you heard “2345”.
3. You type 2345+ (assuming you have not changed the default <asel> key)
4. That “radioselects” the aircraft, you see this, because above the input line at the bottom of the radar, you see N12345<---



5. You press <F9>+, and ASRC assigns a transponder code to the aircraft.
6. You look in the RA section of the CRD and read the transponder code that was assigned to the aircraft



7. You look above the transponder code, and read the abbreviated flight plan that the pilot has filed. It

says:



8. You realize that the route is incorrect

9. You type <F6>+, which opens the flight strip

N12345	I	130		R28 GMN CIVET	7202
E120/A	KSEA-KLAX				
T1906252	NONE				
149 01		130	/W/ ZLA-ME		AMENDED

10. You type .am rte kwang4.kwang.vtu.sadde6<enter>

N12345	I	130		KWANG VTU SADDE6	7202
E120/A	KSEA-KLAX				
T1906238	NONE				
149 01		130	/W/ ZLA-ME		AMENDED

11. You see that the route was correctly changed in the flight strip

12. You wish to change the final altitude

13. You press <F5>050+

14. You notice that the final altitude has been changed in the flight plan

N12345	I	050		KWANG VTU SADDE6	7202
E120/A	KSEA-KLAX				
T1906206	NONE				
149 01		050	/W/ ZLA-ME		AMENDED

15. You press the <Right CTRL> key and speak the clearance to the pilot

16. Once he taxis and is ready to go, you clear him for takeoff

17. As soon as his speed reaches 50 KTS, you notice that he automatically tags up. This happened because you assigned him a beacon code, and that placed the beacon code into the list of beacon codes that you are monitoring

18. Once you see him tag up, you need to track him

19. If you are in DSR mode, you notice that his CID (computer ID) is 149

20. Now you need to track the aircraft.

21. <F3>149<enter> to track the aircraft (if in ARTS mode, or optionally in DSR mode, once radioselected, <F3>+)

22. If in DSR mode, his position symbol goes from an "I" to either a triangle or a diamond

23. If in ARTS mode, his position symbol changes to your position letter

24. Lets assume that there is another aircraft in potential conflict with the departure, you want to restrict his climb to 4000

25. Tell the aircraft "N12345 maintain 4000"

26. As soon as he reads this back, you enter this temporary altitude restriction into his datatag by typing <F8> 040 149 <enter> (if in ARTS mode, or optionally in DSR mode, once radioselected, <F8> 040+)

27. If in DSR mode, you see that the datatag now says 040T032 on the second line, indicating that he is at 3200 feet, and temporarily assigned 4000 feet



28. If in ARTS mode, the datatag second line of the datatag alternates from 032 21 (indicating that the aircraft is at 3200 and 210 KTS groundspeed) to 040\*BE50 indicating that this is a BE50 assigned an altitude of 4000.

29. When he levels at 4000 feet, you see 040T040 (or in ARTS mode, 040 21 alternating with 040\*BE50)



30. When the altitude is available, assign him his cruise altitude of 5000

31. As soon as he reads this back, you press <F8>149<enter> and his altitude restriction is cancelled (if in ARTS mode, or optionally in DSR mode, once radioselected, <F8>+)



32. Now he is getting closer to Los Angeles Center's airspace

33. You initiate a handoff to LA Center (sector 20) by typing <F4> 20 149 <enter> (if in ARTS mode, or optionally in DSR mode, once radioselected, <F4> 20+)

34. In DSR mode, the datatag alternates H-20 in the lower right field indicating that the aircraft is in handoff status to sector 20

35. In ARTS mode, the datatag shows 050C21 in the second line, indicating that he's at 5000 and 210 KTS, and in handoff mode to sector C (Center)

36. In DSR mode, when the handoff is taken, the lower line of the datatag says R149O-20 indicating that the aircraft is radar contact with sector 20, and accepted

37. In ARTS mode, when the handoff is taken, the C goes away from between the altitude and speed, and the position indicator letter changes from your letter to a C.

38. Tell the aircraft to contact Los Angeles Center

39. To close the datatag, press <F1>149<enter> (if in ARTS mode, or optionally in DSR mode, once radioselected, <F1>+)

40. The datatag closes

## ***IFR arrival***

In this example we will follow the aircraft from a handoff to landing at the destination airport.

1. When you receive a handoff, you will see the datatag open and flash.
2. In DSR mode, the lower line of the datatag shows R149H-20 indicating that he is being handed off by Los Angeles Center, and has a computer ID of 149

3. In ARTS mode, the position indicator is the letter C for Los Angeles Center
4. To accept the handoff, type <F3>149<enter> (or alternatively, if he is radioselected, <F3>+)
5. In DSR mode, the datatag will stop flashing, and the position indicator will become a diamond or triangle
6. In ARTS mode, the datatag will stop flashing, and the position indicator will change from a C to your position letter
7. When the aircraft calls, we will assume that he is at his cruise altitude.
8. In DSR mode, the datatag shows 050C meaning that he is at his cruise altitude of 5000



9. In ARTS mode, the datatag alternates from 050 24 to 050\*BE50



10. At SMO you tell him to descend and maintain 2500
11. To input this temporary altitude in to the computer, type <F8>025 149<enter>, (if in ARTS mode, or optionally in DSR mode, once radioselected, type <F8> 025+)



12. When ready for handoff to tower, type <F4> 1t 149<enter>, (if in ARTS mode, or optionally in DSR mode, once radioselected, type <F4> 1t+)
13. Once the handoff has been accepted, and aircraft has been told to change frequency, you may close the datatag by typing <F1> 149<enter> (if in ARTS mode, or optionally in DSR mode, once radioselected, <F1>+)

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## Frequently asked questions

Q. What does it mean to “track” an aircraft?

A. It means taking ownership of that aircraft. This will be visible to everyone else.

Q. What does it mean to “drop track” on an aircraft.

A. It means relinquishing ownership of an aircraft. Only then can someone else “track” the aircraft.

Q. Why can't I open a datatag on a target squawking 1200 “V”?

A. Because you don't really know who he is until you radar identify him.

Q. How do I radar identify an aircraft?



A. 1) Type the CALLSIGN+ to radioselect the aircraft. 2) press <F9>+ to assign a beacon code. 3) Read the beacon code from the RA. 4) Assign the beacon code to the aircraft. 5) He will tag up as soon as he sets his transponder to the assigned code.

Q. How can I tell who someone is if they are squawking 1200 or in “squawk standby” mode?

A. You cannot.

Q. How can I perform functions on aircraft that have not yet been radar identified, or who do not have open datatags?

A. By radioselecting them first, and using the <asel> key after each command.

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# Advanced Simulated Radar Client (ASRC)

Copyright 2002

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David Hendleman

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## Quick Reference Card

Command	Equiv	Comments
<asel>		Selects an aircraft for radio transmission (“+” key by default)
<csel>		Selects a controller for text transmissions (“\” key by default)
<TAB>		Opens/closes VSCS
<enter>		Toggles between ground-to-ground and air-to-ground text
<F1> <b>CC</b> ACFT	.QP	Pointout to two digit controller ID “CC”
<F1> ACFT	.QP	Displays or hides datatag
<F1> <b>P</b> ACFT	.QP	Changes position of datatag to position “P”
<F1> <b>P/L</b> ACFT	.QP	Changes position and length of leader
<F1> <b>/L</b> ACFT	.QP	Changes length of leader
<F2> <b>FFFbCCC</b> <enter>	.QD	Sets hard airspace floor and ceiling (CAUTION - SEE NOTES)
<F2> <b>ICAO</b> [ICAO...] <enter>	.QD	Displays altimeter settings for up to 6 ICAO airport identifiers
<F3> ACFT	.QT	Tracks an ACFT, or accepts a handoff
<F4> ACFT	.QX	Drops track on an ACFT
<F4> <b>CC</b> ACFT	.QX	Initiates handoff to two digit controller ID “CC”

<F4> /OK ACFT	.QX	Forcefully drops track on an aircraft owned by a PC user.
<F5> <b>ALT</b> ACFT	.QZ	Assigns cruise altitude
<F5> <b>ALTBALT</b> ACFT	.QZ	Assigns a block cruise altitude
<F6> ACFT	.SS	Displays flight strip (shift <F6> or .QU shows flight planned route)
<F7> <b>ICAO</b> <enter>	.WX	Shows metar for ICAO
<F7> ACFT	.WX	Shows arrival metar (shift <F7> or .QW shows depart metar)
<F8> <b>ALT</b> ACFT	.QQ	Assigns temporary altitude
<F9> ACFT	.QB	Assigns transponder setting
<F9> <b>CODE</b> ACFT	.QB	Assigns the specific <b>CODE</b>
<F9> <b>CODE</b> <enter>	.QB	Removes <b>CODE</b> from code list
<F9> <b>C</b> ACFT	.QB	Assigns voice, text, receive flag ( <b>C</b> = “v”, “t”, or “r”)
<F11>		Zooms in
<F12>		Zooms out
{double right click}		Centers scope on double click point
{right drag}		Pans scope
<b>POINT</b> <HOME>		Centers on <b>POINT</b>
{Mouse wheel}		Zooms in or out
<HOME> {click aircraft}		Sends private message to clicked aircraft to contact you
<INS> <b>ABC</b> <enter>	.QS	Inserts scratchpad string
<INS> /OK <b>ABC</b> <enter>	.QS	Inserts scratchpad string into an aircraft owned by another controller.
<up arrow>		Scrolls back through text input
<dn arrow>		Scrolls forward through text input
<ESC>		Clears text input line if text present; unselects aircraft if text absent
<PGUP>		Scrolls backward through communication history (radio or controller)
<PGDN>		Scrolls forward through communication history (radio or controller)
<END>		Resets communication box to its normal state after scroll

<b>.transfer /ok CC &lt;enter&gt;</b>	Initiates mass handoff of all owned targets to controller ID “cc”
<b>.vis POINT &lt;enter&gt;</b>	Sets visibility center to <b>POINT</b>
<b>.ff FIX [FIX FIX ...] &lt;enter&gt;</b>	Turns individual <b>FIX</b> (es) on or off
<b>.rings POINT &lt;enter&gt;</b>	Sets range rings center to <b>POINT</b>
<b>.rsb POINT POINT &lt;enter&gt;</b>	Gives range and bearing between two <b>POINT</b> s
<b>.rsb POINT ACFT</b>	Gives range, bearing and time info between ACFT and <b>POINT</b>
<b>.ta {click aircraft}</b>	Issues traffic advisories to radioselected text aircraft
<b>.ql h POINT TIME ACFT</b>	Inserts someone into hold list (.ql h ACFT removes)
<b>.ql d CC ACFT</b>	Pushes ACFT onto the departure list of controller ID “CC”
<b>.ql a ACFT</b>	Adds/removes ACFT from your arrival/departure list
<b>CALL &lt;asel&gt; &lt;asel&gt;</b>	Adds or removes an aircraft to/from your request list.
<b>DD &lt;csel&gt;</b>	Opens chat with controller or observer ID “DD”
<b>.x &lt;enter&gt;</b>	Closes a chatbox, and deletes all contents
<b>.msg DD MESSAGE &lt;enter&gt;</b>	Sends a text <b>MESSAGE</b> to controller or observer ID “DD”
<b>.chat CALL &lt;enter&gt;</b>	Opens a chat with <b>CALL</b> (usually not in your list)
<b>.group groupname [CALL or DD...] &lt;enter&gt;</b>	Opens group chat with any number of <b>CALL</b> s or <b>DD</b> s
<b>.a [CALL or DD] &lt;enter&gt;</b>	Adds <b>CALL</b> or <b>DD</b> to the currently opened group chat
<b>.r [CALL or DD] &lt;enter&gt;</b>	Removes <b>CALL</b> or <b>DD</b> from the currently opened group chat
<b>.wallop MESSAGE &lt;enter&gt;</b>	Sends broadcast message to all <b>supervisors</b> on the network
<b>.pan MESSAGE &lt;enter&gt;</b>	Sends private <b>MESSAGE</b> to all of your <b>tracked</b> aircraft
<b>.ov CC &lt;enter&gt;</b>	Overrides position ID “CC”
<b>.ic CC &lt;enter&gt;</b>	Initiates intercom call with position ID “CC”
<b>.rls &lt;enter&gt;</b>	Cancels, or disconnects override or intercom call
<b>.atis CALL &lt;enter&gt;</b>	Requests atis from <b>CALL</b>
<b>.ping CALL &lt;enter&gt;</b>	Pings <b>CALL</b> (aircraft or full controller callsign)

.am rte fix1.fix2 <enter>	Amends flight plan route
.am typ <b>TYP</b> <enter>	Amends flight plan aircraft type
.am spd <b>SPD</b> <enter>	Amends flight plan true airspeed
.am ral <b>ALT</b> <enter>	Amends flight plan requested altitude
.am alt <b>ALT</b> <enter>	Amends flight plan assigned cruise altitude
.am rmk <b>RMK</b> <enter>	Amends flight plan remark section
.am bcn <b>CODE</b> <enter>	Amends flight plan beacon assignment
.am ifr <enter>	Amends flight plan type to IFR
.am vfr <enter>	Amends flight plan type to VFR
.fp <b>TYP ALT RTE</b> <asel>	Creates new IFR flight plan for selected AC (and deletes current FP)
.vp <b>TYP RTE RTE</b> <asel>	Creates new VFR flight plan for selected AC (and deletes current FP)
.break	Requests position relief (break)
.nobreak	Cancels request for position relief (nobreak)
.log <b>FILE</b> <enter>	Saves the entire radio history, or chat history with the currently selected individual, as a text file with <b>FILE</b> name
.copy <enter>	Copies the entire radio history, or chat history with the currently selected individual to the windows clipboard
<CTRL-C>	Copies the ASRC input line onto the windows clipboard
<CTRL-V>	Pastes the windows clipboard to the ASRC input line
.rwkey <enter> <PTT key>	Sets the push-to-talk key for voice through ASRC
.refresh <enter>	Refreshes ASRC's data (only needed if datatag not updating correctly due to server or client issues)
<*>	Numpad * key (splat key) inserts a <space> between arguments in command strings.

## Notes –

1. “ACFT” indicates any aircraft select method (either <asel>, CID, **CALL**, or click on aircraft).  
Some methods of aircraft selection are not available for all functions.
2. **CALL** indicates full callsign.
3. Upper case **BOLDED** words should be replaced with the corresponding value described below.

4. Lower case un-bracketed words should be typed as indicated, and are part of the basic command.
5. Words or characters bracketed with [] are optional arguments.
6. Words bracketed with <> represent a single keystroke.
7. Words bracketed with { } represent a mouse movement.
8. “**P**” is a single numpad key (1-9) indicating position of movement of datatag
9. “**L**” is the length of the leader line (0-9)
10. “**FFF**” is the floor of the hard airspace block in hundreds of feet, “**CCC**” is the three digit ceiling of the hard airspace block in hundreds of feet, “**b**” is a required letter indicating that you are changing the airspace block. USE CAUTION -- This command prohibits viewing any aircraft in any mode above or below this block.
11. “**ICAO**” is a four digit ICAO airport identifier. You may enter up to 6 airport identifiers separated by spaces.
12. “**FIX**” is any fix (intersection)
13. “**POINT**” is the identifier for any FIX, VOR, NDB, or airport
14. “**ABC**” is any three digit alphanumeric string of characters
15. “**TIME**” is the number of MINUTES FROM NOW to expect further clearance
16. “**DD**” is any single or double-digit controller or observer ID from the controller list
17. “**TYP**” is a four-digit aircraft type
18. “**SPD**” is a three-digit true airspeed
19. “**CODE**” is a four-digit transponder code
20. “**ALT**” is a three-digit altitude in hundreds of feet
21. “**RTE**” is a valid route of flight with no spaces, starting with departure airport, ending with destination, and separated by periods (eg: laxx3.dag.clarr1)
22. “**RMK**” is a remark with no spaces, separated by periods (eg: this.is.a.remark)
23. “**MESSAGE**” is a string of text with or without white space.
24. “**FILE**” is a complete file name.

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