ATCpro Lesson 4a Video script

Version 2, 6-13-16 D. Logan

***Note: to recreate the traffic as seen in the lesson, from an older schedule database, please download and install the files in ATCproTutorial traffic db files.zip. See included readme install instructions. To see the traffic, set the slider to "Custom" 100% instead of "Commercial" 100% (see below).***

<div align="center">Narrator</div>

Welcome to Lesson 4a of ATCpro! In this lesson you will watch the Computer controllers in action at the Albuquerque facility and learn some basics of how to control one departing aircraft. This will allow you to become familiar with ATC procedures in general, and specific procedures for this selected facility. In the next lesson, 5a, you will use this same scenario to try your hand at controlling your first aircraft.

First of all let's get a scenario setup on the Duty Desk.
Make the following settings:

Facility ABQ – Albuquerque Sunport

Weather: East flow, Wind 080 degrees at 5 knots, few clouds.

Traffic: Departures - **Commercial 100%,** everything else 0%

***Note: set to Custom 100% instead of Commercial 100% if custom traffic database is installed.***

Arrivals - all set to 0%

Other – all set to 0%

Position: Set both North and South to Computer control.

Time: set from your current time and day to 9:08 Wednesday

Click the **Begin Your Shift** button.

When the program finishes loading , On the Left side of the scope you will see the Flight Information strip window. Since there are only computer controllers active right now there will not be any data strips here so close the window by clicking on the X in the upper right corner of the window.

There is a light blue window on the right side of your screen. It is the Comm panel where you select the active radio frequencies.

Click on the TX SEL and RX SEL buttons on the 1st 2nd and 3rd rows here. This enables you to hear radio conversations with the aircraft on the frequencies of the north, south and Tower controllers. You can

close this window too for now to get it out of the way. You can always bring any pop up window back by clicking on the icon on the lower right here…

In the blue Communications History window on the lower left you will see the text of the conversations between the aircraft and the controllers frequencies activated in the Comm panel.

Let's set up our scope with a few things before the departing aircraft appears so I will pause the simulation now by clicking on the icon here on the lower right.

Click on the RANGE button on the DCB bar at the top of the scope and it will turn light green. Roll your mouse on top of the button and the scope magnification will zoom in and out. Zoom in until it reads 36 and click to lock it in.

Next click on the MAP button on the DCB. You will see numbered map buttons. Click on #14 ZAB-SEC to see the Center controller airspace boundaries and frequencies.

Next click on the ARR DEP button on the right of the DCB. Click on KABQ. These are the airports available in this facility. Click on #309 MNZNO2 (manzano 2). This is a departure procedure map we will be using for our departing aircraft. I will talk more later about what departure procedures are and show you how to figure out what maps to use for departing aircraft.

That's all we need to do for now so click on DONE to get back to the scope. Notice there are some map overlays on the scope now that will give us some reference points when controlling.

I will unpause now to continue with the scenario…

After hearing the dialog between the pilot and controller,

Notice in the Comm History window you can see the transcript in lines of text showing the aircraft with the callsign AAL 1332 (American thirteen thirty two) has been cleared for takeoff from runway 8, and instructed to fly a compass heading of 180 degrees once airborne. The pilot has read back the instructions to the controller to acknowledge.

The Tower controller also tells flight AAL 1332 to contact the departure controller of the one two tree point niner frequency after taking off from runway 8.

The pilot of American 13 32 has changed to the departure frequency and contacts the controller to say he is with you climbing at the current altitude of five thousand nine hundred feet and has been given the command or "clearance" by the previous controller to climb up to the altitude of nine thousand feet but not higher. For example if the pilot of AAL 1132 was not given an additional clearance to climb higher than 9000' he would climb until reaching 9000' then *maintain* that altitude until receiving another clearance. You will see a green S symbol pop up near the center of the scope. This is the datatag of the aircraft. Hover your mouse pointer on the S symbol of the aircraft and the cursor will turn into a circle in a cross symbol, then left click your mouse cursor on the datatag to expand it. You can show or "quick look" the data tag of any aircraft this way even if it is not under your control.

Next the controller has given the pilot a clearance to proceed directly to a waypoint on the departure procedure and that he should follow or join the manzano two departure procedure.

The pilot confirms he has heard the controller with roger and reads back the commands, ending with his callsign, American 13 32.

If you want to pause the simulation at any point to study what is going on or turn additional maps on or off, click on the Pause icon on the lower Right. I will pause now to describe what's coming up.

While the pilot is climbing notice that he is following the dashed line of the map we turned on earlier. This is the route of the departure procedure, like a highway in the sky. There is a waypoint labeled MNZNO that is what the departure procedure is named for. There is a waypoint labeled FATTT and that is what is indicated as the exit fix by the code "T" in the datatag.

When the pilot has reached YUGLU he will be given the command by the departure controller to climb to the flight level 200 or twenty thousand feet, the highest altitude of the controller's airspace before he is handed off to the Center controller on the way to aircraft's planned destination. He will fly along the route of waypoints of the departure procedure while climbing to a maximum of 20,000 feet.

I will unpause now so you can watch…

I will pause the sim again now to describe some things about the aircraft's datatag.

You will see the datatag switch between displaying two sets of information (or "time sharing"). This information has several variations depending on the situation.



datatag (time shared with alternate)
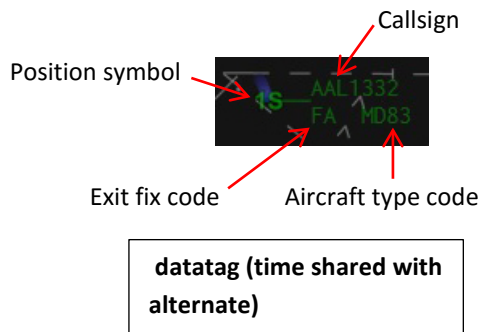
**Position Symbol:** 1S is for the South controller position. This symbol represents the location on radar of the aircraft, and which controller has responsibility for the aircraft.

**Callsign:** For commercial aircraft, 3 letter airline code and flight number
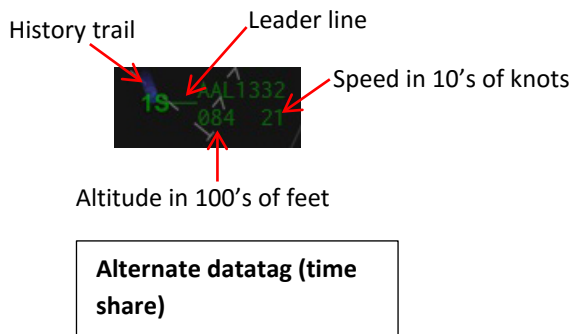
**History trail:** Series of blue dots that trail along behind the aircraft indicating where it has been that gives a better picture of motion.

**Leader line:** a line that connects the text of the datatag to the position symbol. It can be varied in length manually and extend away from the position symbol in any direction. It will be repositioned automatically when two datatags begin to overlap.

**Exit fix code:** The single letter code that indicates the *fix* or waypoint where the aircraft should depart the sector. In this example, T is for FATee's to the Southeast. To see a table of fix codes we can look at the information popup panel here. Here is T for FATee's. On the Pronunciation tab you have a list of all the fixes, waypoints and procedure names with the proper pronunciations for accurate voice recognition. Here is FATee's, and farther down, here is manzano2.

**Aircraft type code:** The 4 letter aircraft type code. In this example MD83 is a McDonnell Douglass 80 medium size jet. See the tab of aircraft type codes and pronunciations, also in the Information popup window.

I will unpause so the datatag changes to the alternate version.



History trail    Leader line

Speed in 10's of knots

Altitude in 100's of feet

**Alternate datatag (time share)**

**Now we see:**

**Altitude:** Altitude above Mean Sea Level (MSL) that is adjusted for the current barometric pressure, given in hundreds of feet. In this example, 084 is 8,400 feet.

**Speed:** Ground speed in knots given in 10's of knots. In this example, 21 is 210 knots. Any wind will increase or decrease the ground speed depending on the direction and intensity.

As the aircraft gets within a few miles of the departure airspace boundary, the controller will handoff the aircraft to Center and will tell the pilot to contact Center on 133.65. Notice on the map are shown the names and boundaries of the Center sectors with the frequencies to give pilots when handing then off.

The aircraft's datatag will reduce to a C for Center with the altitude of the aircraft when it is fully under the control of the next controller.

I encourage you to watch this lesson a few times to get familiar before moving on to the next lesson 5a where you will take control and start giving commands to aircraft.

Click the X in the upper right corner of the scope to end the session.