LOW IMP.
PHONES

118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136

3

0 25 50 75

Hz. TUNING

4

1

VOLUME

OFF

2

0 2 4 6 8

5

KHz. TUNING

# AIRCRAFT RECEIVER

MODEL AVR-20-A1

MFG. BY
HUM. AEROWORKS
CALIF. USA

MI-5978A
SERIAL 2290

C.A.A.T.C.
WT. 6.2 LBS.

This COM1 radio receiver has been created for my Lockheed Model 12 (L-12a) vintage model for X-Plane. It is roughly modeled on an RCA unit from the 1930's and '40's, but changes had to be made to accomodate to the X-Plane world. X-Plane is by definition digital, while the real unit was analog, and the two worlds do not mesh perfectly. Hence, the radio has had to be adapted to work in X-Plane.

First a word about COM radios in X-Plane (modeled on the real world). If you look at the beautiful little COM1 radio in the default ASK-21 glider created by Laminar Research (and some radios in other planes), it has two decimal places. For example it counts up like this:

118.00
118.02
118.05
118.07
119.00

Appearing to count up by 2, 3, 2, and 3 respectively.

Yet when you look at the COM1 frequency datarefs, the frequencies you are setting are actually:

118.000
118.025
118.050
118.075
119.000
119.025 etc.

As you keep going the values change as so:

118.175
119.200
119.275
119.300 etc.

So you're actually counting up by 25 and hundreds in the decimal places.

It turns out that the big dial (##2-3 in the picture) does not have the fidelity as I had originally hoped to be able to tune up or down by these increments. The gauge would have to be impossibly big! That's why all the default and most (all?) radios in X-Plane have simulated LED digital numbering of some sort or early mechanical rotating number dials.

But I wanted the big dial, so I compromised by adding two "chickhead" knobs to do the tuning of the radio. (Knobs like this are found on the transmitter often paired with this kind of RCA receiver.) And it's pretty simple to tune. Use the big dial (#2) to tune the Mhz. values 118.XXX to 136.XXX. It will not tune the decimal values. Now use the "Khz. tuning" knob (#5) to tune the first decimal place: XXX.100 to XXX.9XX. Finally, tune the last two decimal places with knob #4: XXX.000 to XXX.075.

For example here are station listings and how you tune:

120.25 tune: knob #2 to "120", knob #5 to "2", and knob #4 to "50".

131.77 tune: knob #2 to "131", knob #5 to "7", and knob #4 to "75".
133.30 tune: knob #2 to "133", knob #5 to "3", and knob #4 to "0".
(And if your station reads: 136.925 tune: knob #2 to "136", knob #5 to "9", and knob #4 to "25".)

The main thing is you have to pay attention to all three dials to tune in your station. Piece of cake! Finally, knob #1 is on/off and volume control for COM1.



Blue skies,
Steve Baugh
A.K.A. Humbug01