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Subject: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Mon, 28 Jun 2010 22:46:13 GMT

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I bought an Airline 62-2704 for \$25 but I'm having trouble finding information for it. I think it's in decent shape but have no idea if it works. Several wires were disconnected when I got it. The label inside has a different layout than the actual chassis does. I've looked through 100's of pages in the Rider's books and found a couple that match the label but haven't been able to find one that matches the actual chassis. One of the tubes is labeled RCA Electron Tube 8-52 and I couldn't find much info on this tube either. Any help would be greatly appreciated.

<http://www.flickr.com/photos/51539872@N05/4744040178/>

<http://www.flickr.com/photos/51539872@N05/4743402273/>

<http://www.flickr.com/photos/51539872@N05/4744040022/>

Bill

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Tue, 29 Jun 2010 02:23:14 GMT

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That's awesome, Bill! I have a couple of Montgomery Ward radios and in each case, the only way to find the schematic was to match the chassis by visual inspection. You just have to look through the whole Rider catalog, scanning for chassis that look like yours by physical layout and matching tube sets. It's a monotonous job, but it's the only way to do it. Montgomery Ward bought chassis from an OEM and had cabinets made for them. Mine were RCA chassis, for what it's worth.

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Subject: Re: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Tue, 29 Jun 2010 02:48:41 GMT

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Have you seen many where the diagram inside the cabinet looked different than the actual chassis? I was speaking to my brother who is into ham radios and he said they didn't always put everything on the diagram, usually just the tubes. Is that true? Thanks for the reply.

Bill

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Tue, 29 Jun 2010 14:27:51 GMT

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Yeah, that diagram is mostly for user-service, an aid to help identify tubes by layout. Usually, they show transformers and other features as sort of a reference point, but being a rectangular chassis, you only really need to show tube locations. I have a few radios with labels like that.

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Subject: Re: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Tue, 29 Jun 2010 20:35:20 GMT

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Ok. Thanks for the help.

Bill

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Tue, 29 Jun 2010 20:43:58 GMT

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In your first post, you said there were some disconnected wires. Have you tried to identify the wires and reconnect them? Should have a couple for antenna/ground, probably four for the speaker (voice coil +/- and field coil +/-) and then of course the power cord.

Does it power up? Do the filaments glow?

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Subject: Re: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Tue, 29 Jun 2010 22:49:21 GMT

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I know what they are but not sure how to hook them up. Particularly the antenna wires. There are 3 of those. I think a yellow, a green and I think a black. The audio cable from the phono was ripped out of the rca jack. I haven't tried to plug it in yet. If you look at the picture of the chassis there is a small transformer on the right side that has a bundle of 3 or 4 wires coming out of it that have been taped up. I'm not sure what they are for or if they are even used for this radio. I believe there are only 2 for the speaker.

I do have a couple more questions if you don't mind.

Would you look for a schematic that matches the diagram or the actual chassis?

I understand MW had different OEM's manufacture the radio's for them. Did they use the major supplier's for this or did they just use anyone? There are so many different manufacturers that made radios from that time period.

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Tue, 29 Jun 2010 23:35:40 GMT

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I'm not sure how many manufacturers Montgomery Ward used as OEM's for their radios. I personally have only seen RCA, so MW may have bought chassis only from them, I suppose. But I expect they had other manufacturers bid too.

I'd be happy to look for a schematic for you but my Rider CD's are packed away. However, I'll try to make time to unpack them and look soon. There are lots of schematics in there though, and all you can do is look through them one at a time, so you'll definitely owe me a steak dinner.

As for the rest of your questions, the wires coming from the transformer are probably speaker connections. Two are probably for the voice coil and two are probably for the field coil. Look at the speaker and see if there are four wires, or a connector with four lugs. The old speakers were made that way, with a field coil that energizes an electromagnet instead of a fixed magnet on the back. This coil also serves double-duty as a power supply filter.

The three wires you think are antenna could be that, I suppose, a balanced pair and a ground. But usually the antenna connection for AM radio is only two wires, (antenna and ground). If AM/FM there would be a separate AM and FM line, but this is only an AM radio. Also, I see from the image of the label you uploaded that it shows a single wire for the antenna (chassis is probably ground). So I am wondering why there are three wires, and I really think they are probably something else.

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Subject: Re: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Tue, 29 Jun 2010 23:46:36 GMT

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Which schematic would you look for? The diagram or the chassis? I've found a couple that match the diagram but not the chassis.

Would there be three wires because of the shortwave portion?

I just looked and there isn't a speaker in it unfortunately.

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Wayne Parham](#) on Wed, 30 Jun 2010 02:44:57 GMT  
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If it has shortwave, that might be it, I suppose. Could be one antenna lead for medium wave and another for shortwave. I'm not sure I've ever seen a radio made that way - most have a single antenna for shortwave and medium wave - but I suppose maybe yours is different. But I still think those three wires are for something else because the label shows only one antenna wire.

The document set for each radio usually includes schematic, chassis layout and alignment instructions.

I expect the missing speaker was a field coil unit and so you'll need to identify the pair of wires that go to the voice coil and the field coil. The voice coil output pair can usually be run to a modern fixed-magnet speaker as long as the field coil pair is run through a coil, like 5mH or so, something like that. The radio probably won't work without a field coil connected, because the plate voltage for the tubes goes through it.

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Encryptor](#) on Wed, 30 Jun 2010 18:29:29 GMT  
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As far as I can tell there is only one antenna. Doesn't mean there wasn't two at some point.

The question I was asking about the schematics is - Since the diagram and the actual chassis don't appear to match to me, would you suggest looking for the schematics for the pictured radio in the diagram or look for one that looks like the actual picture of the chassis I have? Which set should I be looking for?

Can you still get the field coil speakers? I'd like to replace it with what should be in there.

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Wayne Parham](#) on Thu, 01 Jul 2010 00:02:00 GMT  
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You might be right about the antenna - I was going by what you said, the fact that there were three wires. I assumed you saw them as inputs to the RF input tube, through their own trimmer caps. Trace those wires back, maybe they're not antenna leads at all.

About the schematic search, I'd look for a match on the chassis and tube complement. When you have a visual match, you have the right schematics.

There are no new field coil speakers, at least not the kind for table radios. There are a few for hifi, but they're very expensive, not anything like what you'd put in a radio like this. The only way to find a field coil speaker is as a pull, a used part from something else. You can probably find one on eBay.

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Encryptor](#) on Thu, 01 Jul 2010 09:54:02 GMT  
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Yes there are 3 wires for the antenna. Those are the only ones that were hooked up when I got it. There is a yellow, green and black and I just noticed another wire that has a small metal crimp on it that says Ant on it. It's a stiff wire like it's a solid conductor. Looking at one of the schematics I found it looks like it might be for an external antenna.

That's what I thought. I have found several that look like the diagram but none like the chassis yet.

According to a schematic I printed for a 2704A radio the speaker is a 10" PM dynamic speaker. Not sure what that means exactly.

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Wayne Parham](#) on Thu, 01 Jul 2010 14:31:35 GMT  
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I guess you do have more than one antenna input, interesting.

About the speaker, what that means is you have a 10" driver. A "dynamic speaker" is what they call drivers with linear motor voice coils and moving cones.

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Encryptor](#) on Fri, 02 Jul 2010 00:37:20 GMT  
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What kind of external antenna would be used on this?

Is that considered a field coil speaker?

I was looking on ebay for a "10" field coil speaker" and found 4 listed. They are not cheap to buy. The cheapest one started at \$50 and has a big rip in it.

Sorry to bother you with so many questions. I'm a noob at this old radio stuff.

Bill

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Fri, 02 Jul 2010 15:00:10 GMT

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Don't apologize! That's what this forum is for and I love chatting about old radios.

Both fixed magnet and field coil speakers are called "dynamic loudspeakers." It's kind of funny to me that they call them that, it's sort of like qualifying a car tire as a "rolling tire".

I'm not surprised that they would be \$50 for a ripped one. They aren't made anymore. I would prefer a speaker with no rips, but you can fix the paper easier than you can fix a coil. Either one can be fixed - I've rewound field coils and pretty much any competent repair shop can do a recone. For older tube radios like this, I usually patch rips with diluted white glue.

For casual listening on medium wave and shortwave bands, I tend to prefer a longwire antenna. As the name suggests, it's just a very long wire. Run it as high off the ground as possible away from metal and power lines where possible.

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Subject: Re: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Tue, 06 Jul 2010 15:32:30 GMT

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Ok thanks. I'll ask all the questions I come up with.

As I mentioned there are a couple on ebay. Can any field coil speaker be used in any radio?

My brother is into HAM radios. I'll have him make me an antenna for it if I can get it working.

I'm looking through the Rider books but haven't found one that matches the actual chassis yet. I'm not sure what year to look in but someone else asked about this very same radio a year or so ago in this forum and you told him then that by the tube set it was probably in the 50's so I started in the mid 40's and will go up from there and see if I can find anything.

Bill

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Tue, 06 Jul 2010 16:11:42 GMT

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That's the best way to find the schematics. Sorry I didn't have time to get the CD's out of storage, lots going on what with a 3-year-old running around and a million little projects. Everything seems to take months longer than it should, but that's just the way it is for a few years. So anyway, I'm glad you can scan through the Rider collection yourself. That's the only way to do it.

About the field coil speakers, there are differences, but for what you're doing, all will work. There will be a variance between units on coil resistance and number of turns, some can be designed to require more current than others, but for these kinds of radios, all are in pretty much the same range. All that's required is the B+ go through the coil, and the current drawn by the set - all the tubes' anodes - is what energizes the coil. Since all are basic five or six tube radios, they all have about the same current draw. This, in turn, means all the field coils have to provide enough flux to work with the available current, making them all pretty similar. Bottom line: If the speaker works, the coils aren't open and the cone physically moves, then I would expect it to work when properly connected.

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Subject: Re: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Wed, 07 Jul 2010 20:42:40 GMT

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Well I purchased a speaker. It was a Buy It Now for \$65 or make an offer. I offered them \$30 and it was accepted. What do you think? <http://tinyurl.com/2vsdsvn>

Bill

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Wed, 07 Jul 2010 22:00:11 GMT

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Excellent! It looks like it's in great shape. If it works, I think it was money well spent.

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Subject: Re: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Sat, 10 Jul 2010 03:21:14 GMT

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Yes it doesn't look like there are any rips. They say it works so we'll see when I get it. I was

surprised they took less than half of what they were asking for it. Must have wanted to get rid of it. Hopefully it will work ok when I get it.

Bill

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Wayne Parham](#) on Sat, 10 Jul 2010 13:09:05 GMT  
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Let us know when it arrives. Be sure to identify the field coil and voice coil windings, and measure them to make sure neither one is open.

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Encryptor](#) on Tue, 20 Jul 2010 21:48:06 GMT  
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Wayne Parham wrote on Tue, 06 July 2010 11:11  
That's the best way to find the schematics. Sorry I didn't have time to get the CD's out of storage, lots going on what with a 3-year-old running around and a million little projects. Everything seems to take months longer than it should, but that's just the way it is for a few years. So anyway, I'm glad you can scan through the Rider collection yourself. That's the only way to do it.

If you could and whenever you get time I'd appreciate it if you could get your CD's out of storage. Not to help me look but I may have found one that fits my chassis and I'd appreciate your opinion on it. Thanks.

Bill

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Encryptor](#) on Tue, 20 Jul 2010 21:50:53 GMT  
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Wayne Parham wrote on Sat, 10 July 2010 08:09  
Let us know when it arrives. Be sure to identify the field coil and voice coil windings, and measure them to make sure neither one is open.

The speaker arrived while I was on vacation. It's HUGE! lol



All the wires go into a single plug. On my chassis there are only 2 wires that say speaker but there are 3 wires I think that come from a small transformer that are taped up. I think they may go to the field coil of the speaker but I'm not sure.

Bill

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Wed, 21 Jul 2010 03:18:33 GMT

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That plug is convenient, but of course, you have to have its mate to use it. Otherwise, you'll just have to wire in direct.

The speaker has two coils, one (voice coil) that is wrapped around the moving former attached to the cone. The other (field coil) is stationary, wrapped around the center pole that the voice coil former moves up and down on. The voice coil winding goes to the output transformer, and the field coil winding connects to the power supply, usually in series with B+, with the rectifier output on one side and all other tube anodes connected to the other side.

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Subject: Re: Airline 62-2704 Need Help

Posted by [Encryptor](#) on Tue, 27 Jul 2010 01:10:36 GMT

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I'm not sure what you said but it sounds complicated. \*lol\*

I received the speaker and I thought it was rather large so I measured it. It's a 12" speaker not the 10" that it was advertised as. I'm not sure what I'm going to do from here. I think I've found a diagram that matches my chassis. The schematic only shows 2 wires going to the speaker and the picture of the back of the cabinet shows a speaker that doesn't look like it has a transformer on it but it's not a great picture.

Bill

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Subject: Re: Airline 62-2704 Need Help

Posted by [Wayne Parham](#) on Tue, 27 Jul 2010 04:21:05 GMT

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Well, I suppose you could mount the speaker if it will fit inside the cabinet. The hole will be smaller but for AM broadcast, that's probably OK. Then again, if it means you have to tear

anything up to get it in there, I'd probably get a speaker that was the right size.

The thing that concerns me right now is the matter of the field coil. You really need to identify if the radio originally had a speaker with a fixed magnet or a speaker with a field coil. If it had a field coil, there will be four wires going to it, two to the field coil and two to the voice coil. Most old tube radios are this way, using a field coil speaker. Honestly, I can't imagine the radio pictured in your first post having a fixed magnet speaker in it. But if it used a fixed magnet, then you won't have a field coil output. It is important to know what you have, so you'll know what you need.

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Subject: Re: Airline 62-2704 Need Help  
Posted by [Encryptor](#) on Wed, 28 Jul 2010 00:46:50 GMT  
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I may be able to make it work with some wooden brackets off the screws that are there for the 10".

I know but that is difficult to do when the speaker is gone and there are no schematics that I can find for this specific radio.

Do a Google search for a Gamble-Skogmo inc. Model 43-6927 and a Model 43-7603. They look like the same chassis but the latter has the phonograph in it. The picture of the back of the cabinet of the first model is easier to see the speaker. I don't know if you can tell if it's a field coil speaker from the picture or not.

The problem again is I don't know if this is identical to the one I have although the chassis top view looks to be identical to mine.

Thanks again for your help.

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Subject: Gamble-Skogmo 43-6927 and 43-7603  
Posted by [Wayne Parham](#) on Wed, 28 Jul 2010 02:28:02 GMT  
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Both schematics - the one for the Gamble-Skogmo Model 43-6927 and the Model 43-7603 - show a fixed magnet speaker in them.

However, the chassis was designed like most other tube radios, with a tube rectifier and a "pi filter", having a capacitor in shunt across the rectifier output, followed by a series inductor (the field coil) followed by another shunt capacitor.

resistor (connected to pin 8 of the 6X5 tube). That way, a fixed magnet speaker can be used. But if you have a field coil speaker, you can take that resistor out and put the field coil winding in its

place.

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Subject: Re: Gamble-Skogmo 43-6927 and 43-7603  
Posted by [Encryptor](#) on Thu, 29 Jul 2010 22:54:54 GMT  
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In your opinion and looking at the picture of the chassis I posted at the beginning of this thread would you say that the model 43-7603 is the radio I have?

If so wouldn't it be better to put whatever speaker it came with back in it? If I decide to do that could I use any 10" speaker?

Should I decide to put the 12" field coil speaker I have where do I hook it to?

Bill

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Subject: Re: Gamble-Skogmo 43-6927 and 43-7603  
Posted by [Wayne Parham](#) on Thu, 29 Jul 2010 23:31:00 GMT  
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I would check tube complement and other components as well as physical layout to be sure. If that's the chassis, any old 10" speaker will work, or you can use a field coil speaker wired as I described in my last post.