

Vintage Fender Guitar Pickup Spec Info

Terminology

- **Single Coil Pickup:** All *vintage* Fender pickups are single coil units. This compares to Gibson, which started using double coil (Humbucking) pickups in 1957. Single coil pickups have a single slab of wound wire around magnet(s). Single coil pickups are easily influenced by outside noise. This would include 60 cycle hum and fluorescent lights.
- **Humbucking pickup:** This type of pickup has *two* single coils combined into one unit. Each coil is reverse wound so that the hum from first coil cancels the hum from the second. The two coils are wired in series so the total resistance is additive, hence producing a "hotter" and quieter pickup (if the two coils were wired in parallel, the total resistance is half the sum of the resistances of each individual coil, assuming both coils are about the same resistance). In either case (parallel or series), the hum does cancel, hence the name "Humbucking". Note the difference between parallel and series wiring of pickups/coils. Parallel is why the "in-between" setting used on a Stratocaster (combining the middle pickup with the neck or bridge pickup), *does not* produce a Humbucking pickup sound. Also, the in-between switch setting on a Humbucking two pickup Gibson is less powerful than each pickup individually. The two Humbucking pickups are combined in parallel (even though the two coils of each pickup are in series), thus giving the average of the two pickups divided by two. Interesting, huh?
- **Ohms:** measure of resistance. The longer the pickup wire and more turns used, the higher the resistance. Also the higher the resistance, the louder or "hotter" the pickup. But be aware, higher resistance comes at a cost: loss of treble frequencies. This is why single coil pickups have more treble and less output than Humbucking pickups (which use two coils). Hence Humbucking pickups have more mid-range and are "hotter". Also this is why single coil pickups that are wound with tons of wire (to approach Humbucking ohms) don't sound very good.
- **Turns or Windings:** this is the number of turns of wire used on the pickup. Fender had a mechanical counter attached to their winding machines that counted the turns. These vintage pickup winding machines were manually run by humans, so the exact number of turns can vary from pickup to pickup.
- **Winding Direction (WD):** This is the direction in which the pickup was wound. Seymour Duncan's terminology best describes this: TL means the top of the pickup bobbin is facing left. TR means the top of the pickup bobbin is facing right. TG means the top of the bobbin is turning away from the winder. TC means the top of the bobbin is turned towards the winder. Reversing the winding on a pickup will reverse the phase of the pickup.
- **Magnetic Polarity (MP):** This is the magnetic polarity on the top side of the pickup. All magnets have two poles: north and south. Reversing the poles of a pickup will also reverse the phase of the pickup. Note vintage Fender pickup magnets are the Alnico type, consisting of Aluminum, Nickel and Cobalt. They are "sand cast", and hence have a crude, rough look with pitting left from the sand cast. The tops of the magnets are ground flat. Usually the magnets have one end chamfered, which helps guide the magnet thru the vulcanized fibre flatwork (this is very noticeable on Strats, and non-existent on pre-1955 Teles). Pre-1965 magnets are inconsistent in diameter, ranging from .185 to .197". But for the most part, they fit very tightly in the flatwork. Starting in 1965, the diameter seemed to get narrower by a few thousandths of an inch. Hence the flatwork did not fit as tightly around the magnets. This causes many 1965 and later Fender pickups to "warp", where the flatwork will actually buckle and curve. Mid-1960's magnets have a smoother edge, and eventually the chamfering of the pickups stopped entirely by the early 1970's.

- **Flat Work:** this is the vulcanized fibre portion of Fender pickups. This material holds the magnets in place (and the windings of the pickups then go around the magnets). Pre-March 1964 Fender pickups used black vulcanized fibre flatwork. After approximately March 1964, this changed to a light gray vulcanized fibre. Then again in the early 1970's, it switched back to black vulcanized fibre.
- **Hand Winding:** This is also known as "scatter winding", where the pickup wire is wound on the bobbin in a random manor. This is how Fender pickups were wound prior to 1965, since it was a semi-manual operation, using a machine to turn the pickup bobbin, while a worker would guide the wire onto the turning bobbin. In 1965, Fender changed to "machine winding", as it is a completely automated process. Machine winding takes away much of the character of the pickup. A lot of the sound of old Fender pickups is due to the random layering and variable winding tension of the wire, which effects the tone. With machine winding, this is all very sterile and consistent. If you see the chart below, notice how consistent the Strat pickup specs get when machine wound (after 1964). Not much variance from year to year with machine winding.
- **Insulation:** this is the surface coating that is baked on to the wire that prevents the turns of the pickup from shorting out. We are all familiar with the insulation on larger wire: usually it's a PVC plastic coating that you have to strip away when connecting. But on the extremely thin wire used in pickups, this insulation is a bake-on coating. There are several different type of baked-on insulation: Formvar, Plain Enamel, or Poly. Fender used Formvar till about March 1964, when they switched to Plain Enamel. This happened at about the same time they switched from black flatwork to light gray flatwork.
- **Wire Outside Diameter (OD):** this is the outside diameter of the winding wire, not including the insulation. The thinner the wire, the higher the resistance (ohms). Though this has less of an effect on resistance compared to the number of windings.
- **Wire Gauge:** this is the gauge of wire as advertised by the wire manufacturer. Fender basically used 42 gauge wire for everything but the Telecaster neck pickup (43 gauge). Note the actually outside diameter (OD) varies slightly even though it's the same gauge. As the gauge number increases, the OD of the wire decreases (42 gauge wire is thicker than 43 gauge wire).
- **Potting:** dipping a pickup in wax to seal the windings to minimize vibration so the pickup feedbacks less (and is not "microphonic").

Why do Vintage Fender Pickups Sound so Good?

There are probably a lot of little factors that make the older Fender pickups sound so good. Not a single one of these factors will change the tone significantly. But when all added together, the sum of the parts is better on older vintage Fender pickups. These factors would include:

- **Magnets:** pre-1965 Fender pickups used larger diameter magnets and were sand casted. Also vintage Fender magnets are Alnico and not Ceramic. Finally, as time goes on older magnets lose some of their power. The less power the magnets have, the better the strings can vibrate. Powerful magnets can actually pull the strings towards the pickup, dampening the vibrations. So there needs to be a balance, because you don't want too strong or too weak magnets. So maybe after 30 years, the magnets are at their "ideal" power, thus producing "ideal" tone. Another thing that is different is the "stagger" pattern. That is, the height of the individual magnet pole pieces. For example, today no one uses a wound third (G) string. But prior to Hendrix, most players did. To compensate for this, the fixed magnet heights were different on older Fender pickups.
- **Windings:** handwound pickups (like pre-1965 Fenders) seem to sound better. It's hard to say why, but the scatter-winding pattern and tension at which the wire was wound was apparently ideal on pre-1965 Fender pickups. The handwinding tonal difference may be due to a lack of distributed capacitance when scatter-wound.

- **Wire Insulation:** the insulation on the windings of vintage Fender pickups have different chemical composition than newer wire. Even though the gauge of the actual wire is the same, the thickness and composition of the insulation is different. This changes the total size of the wound windings. This in turn changes the inductance and capacitance of the pickup, and hence the tone. Fender used Formvar insulation till about March 1964. Then they switched to Plain Enamel insulation.
- **Pots:** the older potentiometers used have wider tolerances than newer pots. This may sound dumb, but it could change the tone slightly.
- **the Guitar itself:** older instruments have older and harder finishes. And they also used nitrocellulose finishes that were applied very thin. Also the wood itself is older and different than wood today (less pollution back then means "cleaner" wood). This will also effect tone.
- **Time:** even if all the above are paid attention to and duplicated, time is something that just can't be made up for. Maybe they sound better because they are just older...

Why do Vintage Fender Pickups Die?

After many years of use, Fender pickups die much more regularly than any other brand of pickups. Even Gibson pickups from the 1930's don't die like Fender pickups from the 1950's. Actually, the reason has to do with the design and materials of Fender pickups themselves.

Since the windings of older Fender pickups are in direct contact with the magnets, this has caused some problems. With time, the magnets seem to chemically react with the windings/insulation, causing the windings to break. Once a single inner-most layer of winding is broken, that's it; the pickup is "dead". Due to magnetic fields, the pickups may still work, but it will sound *extremely* thin and weak. Also, if you turn down the Tone control to that pickup, it will go complete dead and silent. That is a sure test of a dead Fender pickup. You can also measure the Ohms of the pickup. Dead pickups will register "open" (no resistance). But because the pots are in-circuit, an open pickup may read some bizarre high resistance, and the value may bounce up and down (again, due to the magnet properties of coils and the pots in the circuit). You should do the Ohm test right at the pickup leads, and to do it right, have one lead disconnected from the circuit (but please don't desolder any vintage guitar pickup leads!) Also the position of the pickup switch can effect values too, as can your fingers if they are touching the meter's probes. Just keep that in mind.

Another thing that kills old Fender pickups is someone trying to "adjust" the (non-adjustable) pole pieces (magnets). Because of the lack of a wound third (G) string, some musicians push the G string magnet down through the flatwork, moving it further away from the strings. The problem is this can tear the inner windings. Since the magnets are in direct contact with the windings, and the magnets are sand casted and have rough sides, this will easily tear a winding. One torn winding will create a dead pickup (see the paragraph above).

Newer Fender pickups have been able to avoid both of these problems. Now, after the magnets are installed in the flatwork, lacquer is sprayed over the magnets and flatwork. Then the wire is wound around the magnets. This means the magnets are no longer in direct contact with the inner windings. Therefore, if the magnets are pushed thru the flatwork, they are less likely to tear the windings. Also there is less chance of a chemical reaction between the magnets and windings as they are insulated from each other by the lacquer.

Vintage Fender Pickup Specs.

These specs are thanks to Seymour Duncan. He does excellent vintage reissue Fender pickups and Fender rewinds. Unfortunately, he's too busy to do rewinds much any more - too bad for us all. He used to **fix** dead Fender pickups by unwinding the original wire, fixing the internal break, and re-winding the original wire back on the pickup! But this is very time consuming, so don't even bother asking him to do it now, as he's very busy (he'd keep busy for a long time just fixing all my dead Fender pickups alone!).

The following table shows Stratocaster pickup specs from 1954 to 1967. Seymour got this data from the thousands of Strat pickups he has fixed or rewound. He then averaged the data together by year, and came up with this table. Note the magnet polarity was changed in 1960 (even though Seymour thought it was 1958, other data suggests it's more like 1959/1960).

1954 to 1967 Fender Stratocaster Pickup Specs							
Year	Ohms	Wire OD	Insulation	Turns	WD	MP	Wound
1954	5.76k	.0030"	Formvar	7956	TL/TG	North	Hand
1955	5.89k	.0029"	Formvar	7844	TL/TG	North	Hand
1956	5.98k	.0029"	Formvar	8012	TL/TG	North	Hand
1957	6.02k	.0029"	Formvar	8105	TL/TG	North	Hand
1958	6.20k	.0028"	Formvar	8350	TL/TG	North	Hand
1959	5.95k	.0030"	Formvar	7925	TL/TG	North	Hand
1960	6.33k	.0028"	Formvar	8293	TL/TG	South	Hand
1961	6.19k	.0029"	Formvar	8119	TL/TG	South	Hand
1962	6.22k	.0028"	Formvar	8220	TL/TG	South	Hand
1963	6.37k	.0028"	Formvar	8319	TL/TG	South	Hand
1964	6.25k	.0027"	Formvar/Enamel	7980	TL/TG	South	Hand
<i>January 4, 1965, CBS bought Fender Musical Instruments.</i>							
1965	5.80k	.0026"	Plain Enamel	7626	TL/TG	South	Machine
1966	5.76k	.0026"	Plain Enamel	7630	TL/TG	South	Machine
1967	5.88k	.0027"	Plain Enamel	7656	TL/TG	South	Machine
Year	Ohms	Wire OD	Insulation	Turns	WD	MP	Wound

The following table shows the difference in pickups by Fender model. Wire specs (gauge, insulation) are for the earliest models produced. Again, this is an average of data from Seymour Duncan.

Fender Pickup Specs by Model			
Model	Wire Gauge	Insulation	Avg. Turns
1000 Pedal Steel	42	Formvar	8000
400 Pedal Steel	42	Formvar	8000
5 String Bass	42	Plain Enamel	12,000
Bass VI	42	Formvar	8550
Deluxe 6 LapSteel	42	Formvar	8350
Deluxe 8 LapSteel	42	Formvar	8550
Dual 6 Steel	42	Formvar	8350
DuoSonic	42	Formvar	8350
Electric 12	42	Plain Enamel	12,500
Electric Mandolin	42	Formvar	8000
Jaguar	42	Formvar	8550
Jazz Bass	42	Formvar	9000
JazzMaster	42	Formvar	8500
Mustang	42	Formvar	7600
Precision Bass	42	Formvar	10,000
Stratocaster	42	Formvar	8350
Telecaster (lead pu)	42	Formvar	8000
Telecaster (neck pu)	43	Formvar	8000
Model	Wire Gauge	Insulation	Avg. Turns

Potting a Pickup.

If you are having problems with a pickup being "microphonic" or feedbacking, sometimes you can fix this. **WARNING:** be careful! you can ruin a perfectly good pickup trying to pot it. For this reason, I recommend letting a professional do this for you. Anything that can vibrate on a pickup can cause feedback: the covers, loose bobbins, a loosely wound coil, a loose baseplate (Tele pickups), loose magnets, etc. Humbuckers with the covers can excessively feedback too, so you can pot them with the covers on to minimize feedback. The idea is to fill the space between the bobbins and the cover and secure everything in place.

In order for the wax to penetrate the coil, the entire pickup first has to be as hot as the wax's melting point. That takes time. As the wax penetrates the coil you will see air bubbles coming out of the pickup. It is not saturated until the bubbling stops, which can take 2 to 10 minutes. The tape around the coils does not need to be removed, the wax will get in just fine. It is absolutely crucial to monitor the wax temperature and keep it below 140 degrees or else the bobbins will melt and distort, killing the pickup. A special blend of parafin and beeswax guarantees a low melting point. Wax that is heated too much without temperature monitoring can spontaneously combust like fuel. This is very dangerous. **DO NOT PUT IT IN THE MICROWAVE.** A "double boiler" is the best way to heat wax. This involves putting the wax in a container, and then putting that container in a pot of hot water. The Water is heated directly by the heat source, not the wax container. If you only have one or two pickups to pot, buying the wax will cost you more than having the job done professionally.

Dating Vintage Guitars and Amps by Source-Date Code.

Introduction.

Sometimes there just isn't enough information on electric instruments and amps to allow them to be properly dated. And many people ask me to try and determine the year of their old amplifier, or to help them with the year of their older off-brand electric guitar.

Since I primarily collect amps by Fender, and guitars by Gibson, Fender, Martin, National, Epiphone, Gretsch and Rickenbacker, I really can't help them with these other less popular brands. As you have probably noticed, there is plenty of information here to help date the brands that I am interested in. But where does that leave everyone else?

Well I'm not one to leave you out in the (informational) cold, so here's something that I use quite often in dating amplifiers and electric guitars. It's called the "source-date code", and it can help determine the approximate age of an electric instrument by the date its components were manufactured.

Source-Date Codes

On American made vintage gear, the pots and speakers provide an excellent opportunity to date a piece of equipment by referencing their "source-date code".

The source-date code found on pots and speakers gives the manufacturer and date (roughly) when the components were made. It may have been some time before the part was installed at the factory, but it still provides a good approximation of when the gear was made. This is especially helpful on (less popular) gear that doesn't have reliable serial#`s or other information to date them.

The source-date code will signify the earliest possible date that the instrument or amp could have been made. This isn't going to be exact, but it will give you a "ball-park" age. And remember, even the dates indicated by the pots aren't that exact. For example, if you buy a brand new CTS pot today, they are dated a month or two in advance! I don't know the reason for this, but it's worth mentioning.

The source-date codes are under the framework of the "Electronic Industries Association", which is a non-profit organization representing the manufacturers of electronic parts. The EIA source-date code is a numeric code, assigned and registered by the EIA. It can be stamped or marked on any product to identify the production source (vendor) and date of manufacturer. Source-date codes have been published by the EIA since 1924. The EIA can be contacted via mail: Electronics Industries Association, 2001 Pennsylvania Ave NW, Washington, D.C. 20006.

Consideration and exceptions:

- Source-date codes weren't an industry standard until **after WWII**. But I have seen them used on Stackpole pots on electric National guitars as early as 1935. The first time date-source codes were published was 1924, so I guess you could see them as early as the late 1920's.
- Most Fenders from 1966 to 1969 have 1966 dated CTS pots. Apparently CBS/Fender bought a large stock of pots in 1966 that lasted till 1969.
- On popular Fender models, the pot date can be very close to the actual date of the instrument. On less popular Fender instruments, such as LapSteels, pots can be as much as two years earlier than the actual date of the instrument.
- Gibson didn't start using pots with source-date codes till 1953 or 1954.

Originality.

Of course this all assumes the pot or speaker is original. You have to make that call. I would suggest checking the solder joints - are they clean? Are the wires of the right era (cloth insulation for older stuff)? If so, you can check the pot or speaker for the source-date code, and determine an approximate age from that.

How the Source-Date Code Works.

The source-date code on a **pot** is a **6 or 7 digit code** impressed into the casing of the potentiometer. For **speakers** this code can be **5, 6, 7 or 8 digits** long, and it's ink-stamped or paint-stamped on the "bell housing" of the speaker.

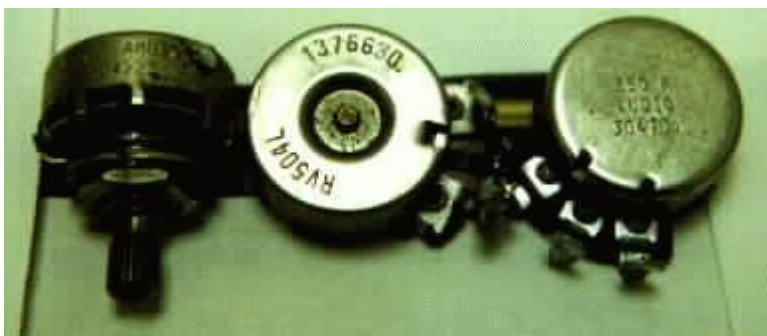
In either case, the code works the same. The first 3 digits on a pot, or the first 2, 3 or 4 digits on a speaker are the **source or manufacturer code**.

The **remaining 3 or 4 digits are the date code**. In 3 digit dates code, the 1st digit is the last digit of the year. On 4 digits date codes, the 1st and 2nd digits are the last two digits of the year. In either case, the remaining 2 digits are the week of manufacture (01 to 52). With this in mind, remember if the last two digits of the source-date code are greater than 52, you're **not** looking at the source-date code!

Also it's worth mentioning:

- Sometimes there is a space or hyphen between the manufacturer code and the year/week code.
- 3 digit date codes were used in the 1940's and 1950's.
- 4 digit date codes were used in the 1960's and later (this makes determining the year much simpler!).
- On 3 digit date codes, you have to "guess" the decade of the pot or speaker. Usually this isn't too difficult.

Pots used by Fender. The middle one is a CTS pot (Chicago Telephone Supply, manufacturer #137) from the 30th week of 1966. The pots on the left and right are Stackpole pots (manufacture #304). Note the different position of the markings, even on pots from the same maker.



Left: The source-date code (285709) on a speaker. In this case, the speaker is made by Rola (285) in the 9th week of 1957 (709). The decade, though not directly shown by the source-date code, was easily determined because this particular amp was only made during the 1950s. Note the font style of the source-date code number always seems to be the same, for all speaker manufacturers.

Right: Same thing here. Jensen (220) speaker made in the 41st week of 1959 (941).



Pot Source Codes.

Here are the most common pot manufacturers (the first 3 digits of the source-date code):

- 106 = Allen-Bradley
- 134 = CentraLab
- 137 = CTS (Chicago Telephone Supply, pots and speakers)
- 140 = Clarostat
- 304 = Stackpole
- 381 = Bourns Networks
- 615 = IRC (International Resistive Company) - see [below](#)

Fender Products.

During the 1950's, Fender used mostly Stackpole (#304) pots. Then in roughly early 1963, they changed to CTS (#137) pots. In 1967 (after CBS bought Fender), Fender bought a HUGE supply of pots from CTS. This supply lasted for over five years. So guitars and amps made as late as 1973 can still have 1967 date codes from this huge 1967 stocking.

All during Fender's life as an amplifier maker, then used speakers made by Jensen (#220), CTS (#137), Oxford (#465), Utah (#328) and Altec-Lansing (#391). Till about 1961, Jensen was the only Fender speaker supplier. Then from 1962 and later you see Fender using speakers from all the above mentioned makers.

National, Valco, Supro Amplifier Products.

Note the use of "550" as a source code on these products. Actually, it's not a source code but is a manufacturers code for all National, Valco, Supro products. Found as second stamping on speakers as a date code 550XXX from 1947 through the 50's and 60's (all the 1940's amps are generally field coil Rola spkrs).

Manufacturer Source Codes.

Below are many manufacturer source codes (which are the first 2,3, or 4 digits of the source-date code).

Common Guitar Speaker Manufacturers:

- 67 = Eminence
- 137 = CTS (Chicago Telephone Supply)
- 220 = Jenson
- 308 = Stromberg-Carlson
- 328 = Utah
- 336 = Western Electric
- 391 = Altec-Lansing
- 416 = Heath
- 465 = Oxford
- 589 = Bogen
- 649 = Electro-Voice

Other Speaker Manufacturers (thanks to P.Bechtoldt and H.Murphy):

- 24 = Becker
- 101 = Admiral
- 106 = Allen-Bradley
- 119 = Automatic mfg.
- 125 = Bendix
- 130 = Panasonic
- 132 = Talk-a-Phone
- 145 = Consolidated
- 150 = Crecent
- 169 = Hitachi
- 185 = Motorola
- 188 = General Electric
- 213 = Dearborn Wire
- 230 = Littlefuse
- 232 = Magnavox
- 235 = Mallory - North American Capacitor
- 244 = Muter
- 245 = National
- 251 = Ohmite
- 252 = Dukane
- 258 = Perm-O-Flux
- 260 = Philco
- 270 = Quam-Nichols
- 274 = RCA
- 277 = Emerson
- 280 = Raytheon
- 300 = Speer
- 381 = Bourns
- 285 = Rola
- 286 = Ross
- 296 = Solar
- 312 = Sylvania
- 336 = Western Electric
- 343 = Zenith
- 371 = Best
- 374 = Cletron
- 394 = Foster Transformer
- 423 = North American Philips (Norelco)

- 433 = Cleveland
- 449 = Wilder
- 466 = Delco
- 532 = Ward Leonard
- 549 = Midwest
- 555 = Waldom Electronics
- 575 = Heppner
- 649 = Electro-Voice
- 706 = Pioneer
- 719 = Carbonneau
- 722 = Milwaukee Resistor
- 742 = Esquire
- 748 = Russell
- 756 = Universal
- 767 = Quincy
- 787 = Sonatone
- 789 = McGregor
- 794 = Harmon Kardon
- 795 = Atlas
- 816 = Dale
- 828 = Midland
- 840 = Ampex
- 847 = University
- 918 = Oaktron
- 932 = Atlas
- 1056 = Fisher
- 1059 = Channel
- 1098 = Pyle
- 1113 = Acoustic Fiber Sound
- 1149 = Curtis Mathes
- 1191 = Micro Magnet

Tubes/Transistors Codes

- 111 = Amperex (USA)
- 125 = Bendix
- 158 = DuMont
- 185 = Motorola
- 188 = General Electric Co (USA)
- 210 = Hytron (CBS-Hytron)
- 260 = Philco
- 274 = RCA (Radio Corp of America)
- 280 = Raytheon
- 312 = Sylvania (Hygrade Sylvania Corp)
- 322 = Tung-Sol
- 366 = Western Electric
- 337 = Westinghouse
- 343 = Zenith Radio Corp (CRT's)
- 466 = Delco
- 980 = Texas Instruments

Capacitor Codes:

- 102 = Aerovox Corp
- 109 = American Condensor
- 134 = Centralab
- 135 = Chicago Condensor
- 163 = Aerovox Hi-Q Division
- 178 = John E Fast
- 188 = General Electric
- 235 = Mallory
- 240 = Micamold
- 242 = Millen
- 273 = Radio Condensor Company
- 296 = Solar
- 303 = Sprague (every Gibson lover's favorite!)
- 438 = Gudeman
- 446 = Good-All
- 461 = Barker & Williamson
- 472 = Pyramid
- 516 = United Condensor
- 569 = Electrical Utilities Corp
- 616 = Illinois Capacitor (Condensor)
- 648 = American Radionic
- 658 = Sangamo
- 705 = Ajax
- 710 = Standard Condensor
- 732 = RMC (Radio Materials Corp)
- 885 = Condensor Manufacturers

Transformers & Coil Codes:

- 138 = Stancor (Chicago-Standard)
- 141 = Coil Engineering
- 172 = Ensign Coil
- 183 = Freed
- 194 = General Radio
- 218 = Jefferson Electric
- 238 = Thordarsen-Meissner
- 239 = Merit Coil & Transformer
- 305 = Standard Coil
- 352 = Essex (Transformer Division)
- 366 = New York Transformer
- 391 = Altec Lansing-Peerless
- 394 = Foster Transformer
- 412 = General Transformer
- 418 = United Transformer Corp (UTC)
- 489 = Radio-Television Products Corp
- 452 = Empire Coil
- 503 = Caledonia
- 524 = Triwec Transformer
- 549 = Midwest Coil & Transformer
- 550 = Standard Winding Co
- 572 = F & V Coil Winding
- 606 = Woodward-Schumacher
- 637 = Central Coil
- 682 = Electrical Windings
- 757 = Grand Transformers
- 773 = Forest Electric

- 776 = Ogden Coil & Transformer
- 830 = Triad
- 831 = Better Coil & Transformer
- 843 = Klipsch
- 878 = Acro Products (Acrosound)
- 883 = Mohawk
- 892 = American Transformer
- 897 = Tresco
- 906 = Coilcraft
- 908 = Aerocoil
- 928 = Acme Coil & Transformer
- 933 = Magnetic Coil Mfring
- 934 = Oaktron
- 1005 = Northlake
- 1052 = Pacific

Other Manufacturers

- 139 = Cinch (Sockets, connectors)
- 152 = Crosley (Radios)
- 194 = General Radio (Test Equip)
- 199 = Hallicrafters (Ham & SW gear)
- 222 = E F Johnson (Sockets, ham xcvrs)
- 248 = Arvin (Sears radios & TVs)
- 254 = Packard Bell (TVs radios computers)
- 260 = Philco (Radios & TVs)
- 262 = Philmore (Hardware)
- 277 = Emerson (Radios & TVs)
- 343 = Zenith (Radios & TVs)
- 416 = Heath (Electronic kits)
- 772 = Muntz (Cheap TVs)
- 787 = Sonotone (Phono cartridges)

Examples of Source-Date Codes.

With all this information in mind, can you identify the following manufacturer and date of these source-date codes?

220 7001

Jensen speaker, 1st week of 1970.

137341

CTS, 41st week of 1953 (or 1943 or 1963, but probably 1953 as source-date codes weren't used much during or before WWII, and 4 digit date codes weren't used till the 1960's and later).

304-6110

Stackpole pot, 10th week of 1961.

137848

CTS, 48th week or 1948 or 1958.

4656755

Not a source-date code. Can you see why? If you can't, read the above information again!

Here's another example:

304809

^^----- week of year (01 through 52), in this case 9th week
 ^----- last digit of year (0 through 9), in this case 1958
 ^^----- manufacturer's source code, in this case Stackpole

IRC Pots (as used on many Gibson Les Pauls).

IRC (International Resistive Company) used a different source-date code system. For example, here's a typical 1950s IRC code seen on a 1955 Les Paul Junior pot:

6154190 500k 543

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^^^----- 615 is the source code for IRC
  ^^^----- 4190 is IRC part# (0689 & 2632 also common)
    ^^^----- 500k is the pot value in ohms
      ^----- last year's digit (0 to 9), hence 1955
        ^^----- week (01 to 52), hence 43rd week
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Jensen Speaker Codes.

Jensen was a very popular maker of guitar amplifier speakers during the 1950s and 1960s. Fender and Gibson used them, and did many other makers. There are some other codes used on Jensen speakers, as shown below. The first set of codes shows the type of magnet, size and quality of the speaker.

The "P12R" identifies the type of magnet, the size, and the quality of the speaker.



The **prefix code letter** identifies the type of magnet used in the speaker. For the best guitar tone, it is generally agreed Alnico V was the magnet of choice. Here are the codes:

- P = Alnico V. At some point in the 1960s Jensen stopped using Alnico V magnets (and used ceramic magnets instead), but kept the "P" prefix!
- C = ceramic
- F = field coil magnet
- EM = electronic musical (electronic musical instrument speaker, 6"x9" to 15")

The **number** is the size of the speaker. Jensen made speakers from 4" to 18" sizes.

The **suffix code letter** identifies the quality of the speaker. Jensen speakers came in varying quality levels. They had a Professional series, a Concert series, and a Standard series. The closer the suffix code letter is to "A", the higher the quality of speaker. For guitar amplifiers, the Concert series is considered the best (the professional series is too efficient and doesn't "break up", the Standard series is too whimpy and can't handle any power). Here are the series code letters:

- Professional series: letters J,K,L (made in 18" and 15" sizes only).
- Concert series: letters N,P,Q,R (made in 8", 10", 12", 15" sizes). Best for guitar amps.
- Standard series: letters S,T,U,V,W,X (codes U,W,X only came 8" and smaller).