

2016 PDF edition

Old Familiar Strains

a newsletter for collectors of radio strain insulators and related items

Volume 4 No. 4/5

October, 1997



WIRES & CABLES

HARDWARE

ANTENNAS

CERAMICS

Quality Products Since 1923

BIRNBACH RADIO CO., Inc

145 HUDSON ST.

NEW YORK, N. Y., U. S. A.

Editorial

Wow! So this is the internet. No, I am not on line yet. But via the magic of the local public library, I have regular access to the myriad of web pages. My little get together was advertised on the web thanks to Bill Meier. Get the story of this, and other shows on page 23.

I was able to find information for this month's Birnbach feature on the net as well. Unfortunately, my poor old writer's reference was published back in "typewriter days" so I was on my own to determine the "P.C." (punctuationally correct) method for footnoting internet references. I hope that none will be offended.

I enjoyed reader Steve Coffman's articles about collecting electric fence insulators in the July issue of Crown Jewels. If you would like to write an article or story for Old Familiar Strains and need an idea, I have a folder full of them. If you have your own topic in mind, perhaps I have some materials that will help you pull it together.

Another special issue, Vol. 4 No. 3 1/2, is included with this issue.

Readers Write

I agree with your theory that the insulator sold with the Morris collapsible ball antenna

[OFS Vol. 4 No. 2] was also sold as a regular end insulator. I also think they adapted this insulator to use with the ball antenna rather than design it for the antenna. My reasons are:

- 1) There was a similar, probably earlier, version of this insulator with a more pointed end, without a saddle way.
- 2) The insulator was also made in a smaller version
- 3) This design was also a common one for porcelain insulators

Jim Singleton 5/97

[See three versions of the insulator in color on page 22 (photo courtesy of Jim Singleton). Ed.]

Glass Trademark Update

"Radiex" - Vineland Flint Glass Works, New York City

L.S. Brach Update

At the time that I wrote the Brach feature article in 1995, I had no evidence that Brach insulators were ever sold separately from antenna kits. Recently, **the Blairs** sent me a photograph of a separately-boxed Brach glass insulator. I guess that settles the matter.

New Readers

Clair C. Cunningham 8815 Whiteport Ln. San Diego, CA 92119-2135

Peggy A. Johnson 72 Ridgewood Rd. East Hartford, CT 06118

R.H. Rogers 929 Plaza Dr. Salina, KS 67401-4664

Bill Shaw 3282 Oakmount Rd. Bloomfield NY 14469-9706

Tim Wood 38744 Hwy 226 Scio OR 97374

Birnbach Radio Company, Inc.

by Dan Howard

Let's all wish "happy birthday!" to the Birnbach Radio Company. For 75 years, the Birnbach name has appeared on a tremendous number of antenna insulators, lightning arresters, antenna kits, and radio components.

Birnbach's Niche

It may surprise you to learn that Birnbach manufactures neither wire nor insulators, glass or porcelain. Instead the company fills a niche as a "value-added reseller." As such, Birnbach serves as an intermediary between commodity manufacturers (such as wire makers) and manufacturers of consumer products (such as radio companies).

Some radio manufacturers, i.e., the Pilot Radio and Tube Company, made nearly every part of their radios. Others prefer the convenience of assembling finished products from basic sub-assemblies. Contracting with value-added resellers allows "manufacturers" to focus on understanding and meeting the needs of their customers instead of investing in extensive manufacturing expertise and infrastructure.

Birnbach found its niche by providing finished radio components such as chassis standoff insulators, insulated wires, and cables.

In addition to providing components to radio manufacturers, the company sold products to consumers through a variety of retail channels. Through the years, the company commissioned others to make "Birnbach" brand porcelain and glass insulators, lightning arresters, and other parts to its specifications.

Birnbach apparently chose not to enter the market for heavy duty commercial antenna insulators. By the time the company began selling insulators, Lapp, Locke, and others had as much as a 30-year head start in design and production. Further, being a middle-man and not a porcelain manufacturer might have placed Birnbach at a significant competitive disadvantage.

Now let's take a look at the company's history.

The 1920's

Philip Birnbach founded the Birnbach Radio Company in 1923 as a sole proprietorship. The company's birthplace was 370 Seventh Ave. in New York City.

Among its first products were "Riga" radio battery cables. (1:28). This name was trademarked in 1927 as shown below.

233,138. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) PHILIP A. BIRNBACH, doing business as Birnbach Radio Co., New York, N. Y. Filed July 15, 1925. Serial No. 217,390.



Particular description of goods.—Battery Cable.
Claims use since Sept. 15, 1924.

In the early 1920's, most home radios operated from storage batteries. As many as three different types of batteries ("A," "B," and "C") were commonly used to provide the needed voltages. The radio battery cables

Birnbach assembled were essentially "wiring harnesses" used to connect the sets to batteries.

When AC power from utility lines became widely available in the late 1920's, existing battery radios were often outfitted with external power supplies called "battery eliminators." However, new radios came equipped with internal power supplies. This virtually eliminated the market for radio battery cables. Only "farm radios" (radios produced for rural "un electrified" areas) and portables still used them.

The company had other lines of wire and cable products besides radio battery cables, but in the late 1920's, Birnbach clearly needed to make changes.

The 1930's

And so they did. According to the Thomas Register listings, Birnbach introduced a line of radio lightning arresters around 1930.

Also around 1930, Mr. Birnbach's sole proprietorship was incorporated as Birnbach Radio Co., Inc..

The mid-thirties found the company advertising insulators for the first time. The first were the 458, 478, 478J series standoff / feedthru insulators (see pg. 19). These were followed shortly by ads for other styles of standoffs and accessories such as the 765 antenna spring (shown on page 14).

Birnbach briefly used the "Birco" trade name in ads in the mid to late 1930's. However, I am not sure if this name ever appeared on the products themselves, with the exception of some of their antenna kits

In addition to its Birnbach and Birco brand offerings, the company's 1938 catalog says

that the company could also provide custom products to customer's specifications and private-label antenna kits. Birnbach may have made some of the "Zenith," "Ward's Airline," or "Philco" antenna kits in our collections.

By the late thirties, Birnbach had expanded its offerings to include a wide variety of radio hardware and accessories.

The 1940's

The entrance of the United States into World War II necessitated the conversion of most domestic manufacturing capacity to military or "essential" civilian uses. Birnbach was no exception. The company's military Manufacturer Designating Symbol (MDS) was CYB. Later, its Federal Supply Code for Manufacturers (FSCM) was 71002 (2:77).

Although Birnbach undoubtedly sold standoffs and insulated jacks during the War, the company was not listed as a wartime producer of strain insulators. Birnbach's main contribution to the war effort was probably in the area of wires and cables.

Some Birnbach ads refer to No. 668 strain insulators as "Navy type" insulators. As these little 4" strains would have only been appropriate for light duty applications, I wonder how many of them were actually used on ships.

Birnbach's "airplane" type insulators (463, 473, 474) (pg. 13) do appear to meet military specifications. Type 473 seems to comply with the Signal Corps's specifications for IN-78 and type 474 is similar to IN-78A. Unfortunately, I have been unable verify whether or not these insulators were actually sold to the military.

Later ads clearly identify a variety of insulators and other products designed to comply with JAN (Joint Army Navy) specifications (see pg. 20).

Birnbach's type 764 airplane antenna springs are similar to those that were used on U.S. aircraft throughout World War II. On fighters such as the Vought Corsair, a wire radio antenna is suspended above the fuselage. Springs were used to hold the wires taut. I have also seen them on larger airplanes such as the Douglas DC-3.

The 1950's

As Birnbach branched out to meet post-war domestic demand, a number of new products and tradenames were introduced.

In its 1955 Radio's Master listing, the company advertised extruded vinyl "spaghetti" insulation under the name "Biraco" as well as "Birflex" which was a vinyl-coated Fiberglas tubing. In 1958, the company was selling wire with "Birflon" - a teflon insulation, Birflene - a kel-f insulation, "Birsil" - a silicone rubber insulation, "Radex" - double cotton covered, and "Birntex" -single wrap cotton covered.

In its 1963 Radio's Master listing, Birnbach advertised wire ranging from copperweld antenna wire, to head phone wire, to coax, to something called "BB-1000" which was rated for "continues duty up to 1000 degree C" and "high nuclear radiation exposure." Wow!

As you can see, Birnbach had a very broad line of radio products in the 1950's and 1960's. If you want to be truly impressed some time, find a copy of an old company catalog or a Radio's Master and take a look at all of the other Birnbach components that I left out of this article.

Milgray Electronics Inc. - 1965-1996

In 1965, Milgray Electronics acquired Birnbach. At the time, the company had about 27 employees and was still located at 145 Hudson St., in New York. (3:104). Despite the purchase, Birnbach continued to operate fairly independently of its parent company.

In 1970, Milgray moved a few miles to Freeport on the southern shore of Long Island. The company moved to its present campus in Farmingdale, New York, in 1982.

At the time of its recent sale to Bell Industries, Milgray was the nation's tenth largest, publicly owned, industrial distributor of electronic components. (4:4).

Bell Industries - 1997

Bell Industries, a California-based electronic components distributor, completed the acquisition of Milgray (and Birnbach) just this year. According to the *1996 Directory of Corporate Affiliations*, Birnbach is now down to 6 employees.

Recently, company management verified that wire products continue to be Birnbach's main focus. Birnbach's 400-series spacers (shown on pg. 20) are still available but the other insulators are not regularly stocked. I was told that Birnbach is willing to have some types made if they have a contract to fill (and providing that the proper die can be located in the warehouse).

Markings - It's in the Fine Print

In the following photo section (pages 13-20), you can see illustrations of most of the company's insulators. Remember that some of these cuts date from before World War II. Current production styles and the placement

of markings may vary from the illustrations shown here.

I find that Birnbach's lightning arresters and porcelain strains are usually marked with the embossed word "Birnbach." Look closely at some of your smaller white porcelain eggs. Yes, they squeezed the complete mark onto those tiny 1-1/2" insulators (and you can almost read it under strong light). At least some of the company's steatite¹ insulators (such as the 470 7" and 471 12" strain), are embossed "steatite porcelain" on the reverse side.

Most of the standoffs that I have examined are marked on the underside². A recess-embossed mark on the base insures positive marking while not interfering with the bearing surface. Standoffs also carry an often-barely-visible recess-embossed part number.

At some point in the past, the company began using a stylized B incuse marking (pg. 8). Some current production insulators are still marked "Birnbach"; others are also marked with the B; and some carry only the part number and the stylized B.

Birnbach cataloged glass strains but I don't know of any glass insulators that are marked with the company name. Birnbach glass strains probably are yet another component of the great wealth of unmarked clear glass strains. Even the unusual "flat dog bone"

¹ I plan to explore the differences between porcelain, steatite, and other types of electrical ceramics in an upcoming article(s).

² My cobalt blue 766 is embossed "BIRNBACH RADIO CO INC" around the side of the base, under the blue glaze, in addition to the embossing on the underside. Instead of recessed embossing, this unit uses standard embossing on the bottom but incorporates "risers" at the screw holes to ensure an even bearing surface.

strain shown on pages 13 and 22, (one of the few that we are able to attribute to Birnbach with some certainty), is only marked "pat. appld. for."

Most Birnbach porcelain is glazed white, off white, or brown. If you are persistent you may be able to find some early production standoffs (663 series, 766) or antenna springs (765) glazed in cobalt blue. These items are identical (except for the embossing) to Fleron items (see OFS 10/96). Perhaps this indicates a common source?

Conclusion

I think that you will find it a real challenge to build a representative collection Birnbach antenna insulators. Some items, especially the egg insulators and standoffs, seem to have been hot sellers as they still show up regularly. The lightning arresters are fairly common items, but there are several versions to collect.

I don't know about you, but I am still looking for a "flat dog bone" glass insulator for my collection. Some of the porcelain strains also remain at large. I recently learned that the glass dog bone is also available in a longer, apparently uncataloged version. Does anyone have one of these? If you do, or if you have any glass that is actually marked Birnbach, I would like to hear from you.

I hope that this article has given you a new perspective on the Birnbach Company. If you enjoy this type of article and would like to research a "company of your own" let me know what I can do to help get you started.

A Calendar of Important Dates From Birnbach's History

- 1923 Founded in New York City by Philip Birnbach
1927 "Riga" trademark (#233,138) is issued to Philip Birnbach for battery cables (claims use since 9/15/24)
1934 Birnbach first advertised insulators in QST magazine
1951 Herbert Davidson went into the surplus business in Manhattan. 6 months latter, he took a partner and Milgray was born. (m:1)
1952 Bell Radio Supply was started (b:1)
1956 Bell became an electronics distributor and began to phase out the retail operation (b:1)
1962 Milgray goes public (m:1)
1965 Milgray acquired Birnbach Company (m:1)
1968 Bell Electronics acquires J.W. Miller, the well known choke manufacturer (b:2)
1970 Milgray moved its corporate headquarters to Freeport, Long Island (m:2)
1977 Bell Industries stock is listed on the New York Stock Exchange (b:2)
1982 Milgray moved to its present 80,000 sq ft facility at Farmingdale (m:3)
1994 Migray opens a sales office in Beaverton, OR (wow, a local tie-in) (m:4)
1996 Milgray rolls out its own web page (the source of much of this information) (m:4)
January 1, 1997 Birnbach began its 75th year of operation
January 15, 1997 Bell Electronics group acquired Milgray Electronics Inc. (b:4)

Quoted Sources:

b: History of Bell Industries 1996: Bell Industries

<http://www.belind.com/bell/corporate/bellhistory.html>

m: The Milgray Story 1996: Milgray Electronics Inc. <http://www.milgray.com/mgrystry.htm>

Birnbach Company Logos

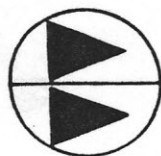
1938



1941



1997



BIRNBACH
COMPANY, INCORPORATED
81 Schmitt Blvd., Farmingdale, N.Y. 11735

Birnbach Antenna Components

<u>Part #</u>	<u>Description</u>	<u>Page #</u>
00	3" ribbed glass strain	13,22
42	2" porcelain tube	14
43	3" porcelain tube	14
44	4" porcelain tube	14
46	6" porcelain tube	14
48	8" porcelain tube	14
65	porcelain lightning arrester (brown)	14
100	Noiseless Antenna Kit	
101	Master Antenna System	16
101	Deluxe Shortwave Antenna System	
111	receiver coupler (baseboard type)	16
112	receiver coupler (outlet box type)	16
146	base insulator for mast antennas	17
148	Universal Wave Antenna	16
149	Universal Wave Antenna w/o coupler	16
149	Switch-O-Matic All Wave Antenna System	
150	All Wave Antenna	16
152	All Wave Antenna	16
153	UHF vertical antenna	
154	UHF vertical antenna 55-145 MHZ	17
155	UHF vertical antenna 55-145 MHZ	17
156	UHF vertical antenna 112-200 MHZ	17
157	UHF vertical antenna 112-200 MHZ	17
158	TV rotatable dipole antenna 82-155 MHZ	
159	5 meter rotatable doublet antenna	17
160	TV rotatable dipole antenna 40-75 MHZ	
161	UHF vertical antenna 40-75 MHZ	
164	taper lock bushings for UHF vertical antennas	
165	fish pole antenna	
167	door hinge auto antenna	
168	door hinge auto antenna (rustless)	
169	AM radio vertical antenna kit w/ arrester	17
170	AM radio vertical antenna kit w/o arrester	17
301	Deluxe Shortwave Antenna System	
302	auto antenna kit (dipole)	
375	All Wave Antenna	16
376	All Wave Antenna	16
377	1/4" Lucite feedthru	19
378	1/2" Lucite feedthru	19

Birnbach Antenna Components

<u>Part #</u>	<u>Description</u>	<u>Page #</u>
379	1" Lucite feedthru	19
405	5/8" porcelain standoff (brown or white)	18
430	5-8" porcelain cone standoff	18
431	1" porcelain cone standoff (431J w/ jack)	18
432	1-1/2" porcelain cone standoff (432J w/ jack)	18
433	2-3/4" porcelain cone standoff (433J w/ jack)	18
436	2" Lucite spreader	15
437	4" Lucite spreader	15
438	6" Lucite spreader	15
445	1" steatite pillar	20
446	1-1/2" steatite pillar	20
447	2-1/2" steatite pillar	20
448	2-1/2" steatite pillar	20
449	4" steatite pillar	20
450	1" steatite pillar (450J w/ jack)	20
451	1-1/2" steatite pillar (451J w/ jack)	20
452	2-1/2" steatite pillar (452J w/ jack)	20
453	2-1/2" steatite pillar (453J w/ jack)	20
454	4" steatite pillar (454J w/ jack)	20
456	porcelain transposition block (white)	15,22
457	steatite button	18
458	5/8" porcelain feedthru	19
462	2" porcelain spreader (white)	15
463	1-1/2" steatite airplane strain	13
464	4" porcelain spreader (white)	15
467	antenna transformer	16
468	4-1/2" porcelain center insulator (white)	13
469	6" porcelain spreader (white)	15
470	7" porcelain strain	13
471	12" porcelain strain	13
472	2-1/2" wet process johnny ball (brown)	13
473	2" porcelain egg (white)	13
474	1-1/2" porcelain egg (white)	13
475	1-1/2" Lucite feedthru	19
476	2" Lucite feedthru	19
478	1" porcelain feedthru (478J w/ jack)	19
479	1-3/8" ribbed porcelain feedthru (479J w/ jack)	19
500	aerial kit	16
501	aerial kit	16

Birnbach Antenna Components

<u>Part #</u>	<u>Description</u>	<u>Page #</u>
503	aerial kit	16
504	aerial kit	16
505	aerial kit	16
555	aerial kit	16
556	aerial kit	16
600	copper ground strap	
611	12" lead in strip w/ clips (black)	14
612	16" lead in strip w/ clips (black)	14
613	12" lead in strip w/ clips (white)	14
617	lead in strip w/ screw terminals (black or white)	14
650	porcelain lightning arrester (brown or white)	14
659	4-1/2" ribbed glass strain	13
660	3-3/8" ribbed glass strain	13
661	3-3/4" flat glass strain	13
662	3-3/4" ribbed glass strain	13
663	3" porcelain emily knob (blue)	15
664	7" porcelain emily knob (blue)	15
666	ribbed porcelain strain (brown or white)	13
667	12" porcelain emily knob (blue)	15
668	4-1/4" porcelain strain (white)	13
669	nail knob (glazed)	15
750	talking tape antenna	17
755	Birnbach Antenode	17
762	50' indoor aerial (white)	
763	50' indoor aerial (brown)	
765	aerial spring adjuster	14
766	porcelain beehive standoff (766 J w/ jack) (brown or whi	18
766	porcelain beehive standoff (blue)	
866	1-1/2" porcelain standoff (866J w/ jack) (brown or white	18
866SJ	1-1/2" porcelain standoff w/jack (brown or white)	18
867	1-3/8" metal base standoff (867J w/ jack)	18
901	Noiseless Antenna System (complete)	
902	antenna transformer u/w 100 & 901	
903	receiver transformer u/s 100 & 901	
904	receiver coupler	
905	receiver coupler	16
963	3" bakelite emily knob	15
964	7" bakelite emily knob	15
965	1" porcelain standoff (brown or white)	18

Birnbach Antenna Components

<u>Part #</u>	<u>Description</u>	<u>Page #</u>
966	1" porcelain standoff (966J w/ jack) (brown or white)	18
967	12" bakelite emily knob	15
1100	aerial kit	
1101	aerial kit	16
2611	doublet lead in strip (black) w/ clips (black or white)	14
2617	doublet lead in strip w/ screw terminals	14
2650	porcelain lightning arrester (doublet) (brown or white)	14
4125	1-1/4" porcelain feedthru (4125J w/ jack)	19
4175	2-3/4" porcelain feedthru (4175J w/ jack)	19
4176	2-3/4" metal base stand off (4176 w/ jack)	18
4200	7/8" steatite feedthru	19
4201	1-1/8" steatite feedthru	19
4202	1-5/8" steatite feedthru	19
4203	1" steatite feedthru	19
4204	1/8" steatite panel feedthru	19
4205	7/32" steatite panel feedthru	19
4206	3/8" steatite panel feedthru	19
4207	3/8" steatite panel feedthru	19
4208	3/4" steatite panel feedthru	19
4209	1-5/8" steatite panel feedthru	19
4215	steatite fish spine beads	
4233	1-5/8" "high voltage" feedthru	19
4234	2-3/4" porcelain feedthru	19
4235	10" glazed porcelain lead in	14
4236	15" glazed porcelain lead in	14
4237	10" glazed porcelain lead in w/ bushings	14
4238	15" glazed porcelain lead in w/ bushings	14
4240	1" glazed porcelain bushing	
4241	1/2" glazed porcelain bushing	
4242	1/4" glazed porcelain bushing	
4275	2-3/4" porcelain standoff (4275J w/ jack) (brown or whit	18
4276	2-3/4" ribbed porcelain feedthru (4276J w/ jack)	19
4450	4-1/2" porcelain standoff (4450J w/ jack) (brown or whit	18
4451	4-1/2" metal base standoff (4451J w/ jack)	18
4452	4-1/2" ribbed porcelain feedthru (4452J w/ jack)	19

STRAIN INSULATORS



GLASS INSULATORS

Birnbach Glass Insulators are made of crystal clear glass and have a smooth surface which prevents dirt or ice to collect.



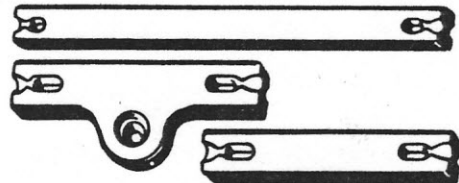
No.	Standard Package	List Price
00—3"	100	C \$5.00
660—3 ³ / ₈ "	100	C 7.50
661—3 ³ / ₄ " Flat Type	100	C 8.00
662—3 ³ / ₄ "	100	C 8.50
659—4 ¹ / ₂ "	100	C 13.00

PORCELAIN INSULATORS



No.	Standard Package	List Price
666—Brown or White	100	C \$4.00

BIRNBACH ANTENNA INSULATORS



These Antenna Insulators have exceptionally low moisture absorption. The leakage path is long and the cross section is small and is consistent with the strength required. A smooth white glaze overall prevents the accumulation of dirt or ice.

Cat. No.

468—4 ¹ / ₂ " long Center Insulator
668—4 ¹ / ₄ " long
470—7 " long
471—12 " long

BIRNBACH AIRPLANE INSULATORS

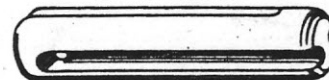


They are used on mobile antenna installations, particularly on aircraft, as they are shaped for the least air resistance. They are made of wht. glazed low absorp. porcelain.

Cat. No. Length

472—2 ¹ / ₄ "—Brown
473—2" —White
474—1 ¹ / ₂ "—White

BIRNBACH STEATITE AIRPLANE INSULATORS



A very small compression type steatite insulator with small wind resistance. Fully glazed. It is 1¹/₂" in length; ¹/₃₂" in diameter; ³/₄" line spacing.

Cat. No.

463—Steatite Airplane Insulators

LEAD INS

LEADIN STRIPS



They are covered with a heavy cotton braid, weather-proofed, with numerous coats of lacquer. The Clips are riveted and soldered at both ends.

No.	Standard Package	List Price
611—Black 12" Long.....50.....each		\$.06 1/2
612—Black 16" Long.....25.....each		.12
613—White 12" Long.....50.....each		.09

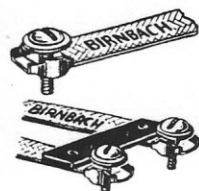
DOUBLET LEADIN STRIPS



The Doublet Leadin Strip consists of two strips held parallel to each other by a piece of bakelite. This assembly prevents the strips from moving back and forth. Available in black or white.

No.	Standard Package	List Price
2611	25.....each	\$.15

SCREW TERMINAL LEADIN STRIP



A screw terminal that locks the wire together with the strip in a secure connection assuring perfect contact. Has weather-proof covering over a copper strip with cadmium plated terminals. Available in white or black.

No.	Standard Package	List Price
617—Leadin Strip	50.....each	\$.10
2617—Doublet Leadin strip	25.....each	.20

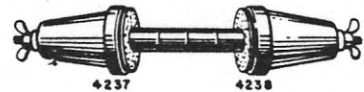
PORCELAIN TUBES



To bring a leadin into a building, we advise our Porcelain Tubes, which require a 3/4" dia. hole.

No.	Standard Package	List Price
42-2"	100.....C	\$2.75
43-3"	100.....C	3.35
44-4"	100.....C	4.50
46-6"	100.....C	5.50
48-8"	100.....C	8.00

BIRNBACH LEADIN INSULATORS



Each cone is 2 3/4" high and made of low absorption, highly vitrified glazed porcelain. The Nos. 4237 and 4238 Leadin Insulators have sufficient insulating bushings to insulate the rod that goes through the wall. In addition, 2 bushings are included, 1/4" and 1/2" long, all owing complete insulation of the threaded rod of any length in multiples of 1/4". They come complete with brass nickel plated hardware and lead and cork washers to permit a water-tight seal.

Cat. No.	Description
4235	10" Rod
4236	15" Rod
4237	10" Rod with bushings
4238	15" Rod with bushings

LIGHTNING ARRESTERS

LIGHTNING ARRESTERS



Made of a brown glazed porcelain body with nickel-plated hardware. Suitable for outdoor or indoor use. Complete with mounting screws and instructions.

No.	Standard Package	List Price
650—Lightning Arrester	50.....each	\$.25
65—Lightning Arrester	100.....each	.15

DOUBLET LIGHTNING ARRESTERS



This Arrester is of the air gap type which is the accepted means of protecting doublet antennas from lightning. Installation instructions are printed on the box.

No.	Standard Package	List Price
2650—Doublet Lightning Arrester	25.....each	\$.30

ANTENNA SPRINGS

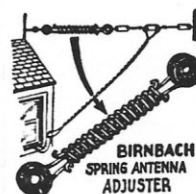
AIRPLANE SPRINGS



This rustproof steel spring cadmium-plated throughout provides a compact compression spring for taking up slack in the guy due to any great pull or strain on antenna during a heavy storm.

No. 764. Std. Pkg. 100. Ea. \$0.33 List

AERIAL SPRING ADJUSTER



The Aerial Spring Adjuster corrects excessive sag of doublet antennas. Prevents swinging and swaying of antennas and eliminates the resultant fading of signals. Consists of two hooks with porcelain rings interconnecting with a powerful compression spring. Cadmium plated throughout.

No.	List Price
765—Birnbach Aerial Spring Adjuster	each \$.50

FEED LINE INSULATORS

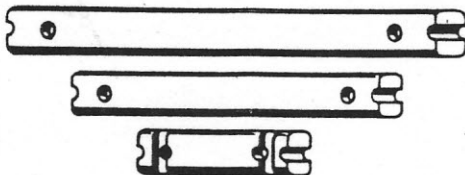
LUCITE SPREADERS



They are made of Dupont Lucite rod which has a very low loss at radio frequencies. It is water clear and has very low water absorption. The holes are drilled to take a No. 12 wire. A screw at the end of the spreader locks the wire in position.

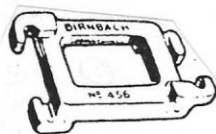
Cat. No.	Wire Spacing
436	2"
437	4"
438	6"

BIRNBACH FEEDER SPREADERS



They have a cross section of $\frac{3}{8}$ "x $\frac{1}{2}$ ". Made of highly vitrified, low absorption, high tensile strength porcelain with a smooth white glaze overall.

Cat. No.
462—Spreader, 2" long
464—Spreader, 4" long
469—Spreader, 6" long



No. 456 Transposition Blocks

It is constructed of high tensile ceramic, glazed over its entire surface making it smooth and increasing the surface insulation which is a necessity at high frequencies where the insulation must be of the best. All the edges are well rounded to prevent the abrasion of the wire. The design permits the wire of the transmission lines of doublet antennas to be transposed with a minimum of sharp bends and has

hooks placed to prevent the wire from slipping out of the block. An outstanding feature of the design is the elimination of the necessity to reverse the block to keep the line from twisting.

No.	Std Pkg	List Price Each
456—Transposition Block	25	\$.12



SCREW EYES

Heavy rustproof cadmium plated steel screws hold the blue glaze porcelain eyes firmly. The bakelite insulated eye is specially molded for outdoor use.

PORCELAIN EYES

No.	Standard Package	List Price Per 100
663—3"	100	\$5.00
664—7"	50	6.00
667—12"	25	19.00

BAKELITE EYES

No.	Standard Package	List Price Per 100
963—3"	100	\$5.00
964—7"	50	6.00
967—12"	25	19.00



INSULATED STANDOFFS TWIN LEAD TYPE

This insulated twin lead standoff is quality engineered and is constructed of low loss insulating material. These sturdy insulators are slotted to take the 300-ohm ribbon type line and are solidly held by the eye of the cadmium-plated steel screws. The No. 1965—3" machine screw twin lead standoff is designed for mounting directly on a metal mast—uses a 10/32 thread.

No.	Standard Package	List Price Each
1963—3"	100	\$0.10
1965—3" M.S.	100	.15
1964—7"	100	.15
1967—12"	25	.25

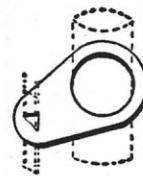
MAST Standoff ASSEMBLY

For fast mounting of twin lead. Lead slips easily into sturdy insulated insert. This assembly will fit around all size masts from $\frac{3}{8}$ " to 2" pipes. Standard package 50.



No. 628.....Ea. \$0.40 List Price

RUBBER STANDOFF INSULATOR



Can be used with either RG59U type cable or ribbon type line. It is heavy, rugged, and weather-proof. Will fit all antenna masts up to 1 $\frac{1}{4}$ ". Tough, resilient rubber. It will keep all cables away from poles.

**SPECIFY
SIZE
DESIRED.**

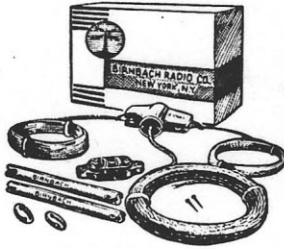
Standard Package 100.
No. 968.....Ea. \$0.10 List Price

NAIL-IT KNOBS



No. Standard Package List Price
669 Glazed..100.....C \$3.50

No. 101 MASTER ANTENNA SYSTEM



The installation of this antenna will give excellent results on the broadcast and amateur bands and also shortwaves with modern receivers. Up to 25 receivers can be connected to one antenna provided a receiver coupler is used with each receiver. The receiver coupler is required to prevent interference from being picked up from one outlet and fed back into the system. The receiver couplers are available in two types:—baseboard and outlet.

CONTENTS OF THE BASIC KIT



- 1—Transformer Housing and Insulator No. 466
- 1—35 ft. coil Heavy Transmission Cable
- 2—No. 470 Navy type Transmitting Insulators
- 2—No. 473 Airplane Insulators
- 1—100 ft. coil 7/20 Tinned Copper Aerial Wire



- | No. | List Price |
|--|------------|
| 101—Basic Master Antenna Kit | \$6.00 |
| 111—Receiver Coupler Baseboard Type..... | 2.00 |
| 112—Receiver Coupler Outlet Box Type | 1.50 |

BIRNBACH ANTENNA KITS



WE CAN SUPPLY ANTENNA KITS TO
YOUR OWN SPECIFICATIONS WITH
YOUR NAME PRINTED ON THE BOX.

No. 556—Aerial Kit.....ea. \$0.60 No. 555—Aerial Kit.....ea. \$0.70

- 35 ft. 7-Strand Copper Wire
- 20 ft. R.C. Lead-in Wire
- 2—No. 666 Porcelain Insulators
- 2—No. 669 Glazed Nailit Knobs
- 1—No. 600 Ground Clamp
- 1—No. 611 Lead-in Strip

Std. Pkg. 24 Weight 36 lbs.

- 50 ft. 7-Strand Copper Wire
- 25 ft. R.C. Lead-in Wire
- 2—No. 666 Porcelain Insulators
- 2—No. 669 Glazed Nailit Knobs
- 1—No. 600 Ground Clamp
- 1—No. 611 Lead-in Strip

Std. Pkg. 24 Weight 38 lbs.

No. 505—Aerial Kit....ea. \$0.90 No. 500—Aerial Kit.....ea. \$1.10

- 75 ft. 7-Strand Copper Wire
- 25 ft. R.C. Lead-in Wire
- 1—No. 65 Lightning Arrester
- 2—No. 666 Porcelain Insulators
- 2—No. 669 Nailit nobs Glazed
- 1—No. 600 Ground Clamp
- 1—No. 611 Lead-in Strip

Std. Pkg. 24 Weight 48 lbs.

- 75 ft. 7/26 Copper Wire
- 25 ft. R.C. Lead-in Wire
- 1—No. 650 Lightning Arrester
- 1—No. 611 Lead-in Strip
- 1—No. 600 Ground Clamp
- 2—No. 666 Porcelain Insulators
- 2—No. 669 Glazed Nailit Knobs
- 2—No. 665 Galvanized Screw Eyes

Std. Pkg. 24 Weight 50 lbs.

No. 503—Aerial Kit.....ea. \$1.50 No. 501—Aerial Kitea. \$1.60

- 75 ft. 7/24 Copper Wire
- 35 ft. R.C. Lead-in Wire
- 1—No. 650 Lightning Arrester
- 1—No. 600 Ground Clamp
- 1—No. 611 Lead-in Strip
- 2—No. 666 Porcelain Insulators
- 2—No. 669 Glazed Nailit Knobs
- 2—No. 665 Galvanized Screw Eyes

Std. Pkg. 24 Weight 65 lbs.

- 74 ft. 7/24 Copper Wire
- 40 ft. R.C. Lead-in Wire
- 15 ft. Flexible R.C. Wire
- 1—No. 611 Lead-in Strip
- 1—No. 650 Lightning Arrester
- 1—No. 630 Ground Clamp
- 2—No. 666 Porcelain Insulators
- 2—No. 669 Glazed Nailit Knobs
- 2—No. 665 Galvanized Screw Eyes
- 6 Insulated Staples

Std. Pkg. 24 Weight 64 lbs.

No. 504—Aerial Kit.....ea. \$1.75 No. 1101—Aerial Kit....ea. \$2.00

- 75 ft. 7/24 Tinned Copper Wire
- 40 ft. R.C. Lead-in Wire
- 15 ft. Flexible R.C. Wire
- 1—No. 611 Lead-in Strip
- 1—No. 650 Lightning Arrester
- 1—No. 630 Ground Clamp
- 2—No. 666 Porcelain Insulators
- 2—No. 669 Glazed Nailit Knobs
- 2—No. 665 Galvanized Screw Eyes
- 6 Insulated Staples

Std. Pkg. 24 Weight 65 lbs.

- 75 ft. 7/23 Tinned Copper Wire
- 40 ft. No. 16 R.C. Lead-in Wire
- 15 ft. Flexible R.C. Wire
- 1—No. 650 Lightning Arrester
- 2—No. 660 Glass Insulators
- 1—No. 615 Pipe Clamp
- 1—No. 611 Lead-in Strip
- 2—No. 665 Galvanized Screw Eyes
- 2—No. 669 Glazed Nailit Knobs
- 5 Insulated Staples

Std. Pkg. 10 Weight 32 lbs.

No. 375 ALL WAVE ANTENNA



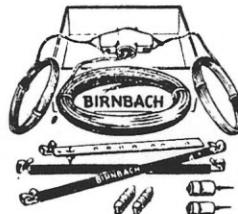
The Birnbach All-Wave Antenna consists of a factory connected and soldered assembly which eliminates the possibility of incorrect and poor connections. The antenna transformer and receiver coupler automatically adjust themselves to the frequency tuned in by the receiver. No switching is required for either shortwave or broadcast reception.

CONTENTS

- 1—Complete Soldered Assembly consisting of:
 - 2—coils Aerial Wire
 - 1 No. 467 Antenna Transformer
 - 1 Coil Transmission Cable
- 1—No. 905 Receiver Coupler
- 2—No. 666 Porcelain Insulators, White
- 2—No. 669 Glazed Nailit Knobs
- 2—No. 617 Screw Terminal Window
- Lead-in Strips
- 1—No. 615 Ground Clamp
- 1—Instruction Sheet

- | No. | List Price |
|---|------------|
| 375 | \$4.25 |
| 376—for sets with built in aerial Selectors (has no Receiver Coupler) | 3.50 |

No. 150 ALL WAVE ANTENNA



An efficient and low cost all wave antenna with noise reducing features. It will give efficient reception on both broadcast and short waves on every type of receiver. It has the newly designed all ceramic transfer unit. With this unit the antenna wire and the transmission line are firmly and securely anchored. There are no wire leads from the transfer unit to collect ice in the winter and to deteriorate in the summer. Comes complete with everything necessary for installation.

LIST OF PARTS

- 2—30 ft. coils 7/24 Bare Aerial Wire
- 1—50 ft. coil Stranded Transmission Cable
- 1—All Wave Coupler
- 1—Transfer Unit
- 2—Porcelain Insulators
- 2—All Wave Lead-in Strips
- 1—Ground Clamp
- 2—Glazed Nailit Knobs
- Complete Instructions

- | No. | List Price |
|-------------------------------------|------------|
| 150—Birnbach All Wave Antenna | \$3.00 |
| 152—Special All Wave Antenna | 2.00 |

No. 148 UNIVERSAL WAVE ANTENNA

(for every type of receiver)



The No. 148 All Wave Antenna is the same as the No. 150, but is packed in a special attractive two color box imprinted to customer's specifications. This kit is designed for efficient operation with all types of receivers. Standard cartons of 20 kits.

- | No. | List Price |
|--|------------|
| 148—All Wave Kit with Receiver Coupler.....each | \$3.00 |
| 149—All Wave Kit without Receiver Coupler.....each | 2.50 |

ANTENNA TRANSFORMER



It is ideal for replacement on all antenna systems. Permits coupling of

RECEIVER COUPLER



Permits coupling of the doublet antenna and all-wave receiver.

- | No. | List Price | No. | List Price |
|-----------------------------|------------|-----------------------|------------|
| 467—Antenna Transformer.... | \$1.25 | 905—All Wave Coupler. | \$1.00 |

ANTENNAS

MAST AERIAL

- CERAMIC INSULATORS
- 12 FT.—4 SECTIONS
- EASY TO INSTALL
- RUSTPROOF
- EVERYTHING FOR COMPLETE INSTALLATION

The Birnbach Mast Antenna is designed to permit satisfactory reception with a minimum of effort where there is a problem and no desire to erect the conventional clothes line antenna. The mast is made of four tempered carbon steel tube sections which will remain straight and instantly go back to an erect position when flexed by the wind. They telescope together making the actual height of 12 ft. and are specially treated to prevent corrosion. Two special shaped heavy duty ceramic mounting insulators permit every type of installation to be made with ease. The Safety Lightning Arrester is specially designed to protect the antenna from excessive static charges of atmospheric electricity when the receiver is being used. The accumulated charges by-passes the receiver and discharges to the ground.



ON CHIMNEY



ON FLAT ROOF



ON VENT PIPE



WINDOW FRAME



- No. 169** Includes:—1—12 ft. 4 section Mast Aerial and Clamps, 2 porcelain mounting insulators and securing clamps; 4 nailit knobs; 1 safety lightning arrester; 35 ft. leadin wire; 1—6" insulated screw eye; 1 ground clamp; mounting screws; and directions.
- No. 170** Includes:—Everything contained in the No. 169 Mast Aerial with the exception of 1 Safety lightning arrester.

LIST PRICE
\$3.25
\$2.95

ULTRA HIGH FREQUENCY ANTENNAS

(Vertical Rods)



They are constructed of hard drawn aluminum alloy tubing, telescoped together and adjusted by forcing down with a turning motion a specially designed brass nickel-plated taper lock bushing. They cover all requirements for stationary or portable use. Two types of mountings are available: stand-off mounting having 1/4-20 threaded bushing on No. 154 and 10-32 threaded bushing on No. 157, and binding post mounting consisting of a reinforced flattened end with two holes drilled 1" between centers. The frequency range listed is for 1/4 wavelength antenna.

No.	Sections	List Price	Frequency Range in Mcs.	
			Open	Telescoped
154	3	\$2.00	55	145
155	3	2.00	55	145
156	2	1.10	112	200
157	2	1.10	112	200
161	2	1.50	40	75
164		.10	Taper Lock Bushings 1/8 and 3/8	

BASE INSULATOR FOR MAST ANTENNAS



This insulator is ideal for replacement on mast antennas. It is well suited as a base insulator for ultra high frequency antennas as it permits a connection to be at the bottom of the insulator. Made of highly vitrified low absorption glazed porcelain.

No.	Std. Pkg.	List Price
146—Base Insulator	10	\$.40

ANTENODE

The Antenode is designed for use as an indoor aerial instead of the regular noisy aerial and gives good selectivity and reduction of static. Easily installed by the layman. Put up in an attractive box with simple instructions included.

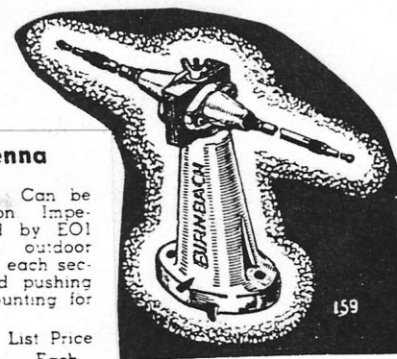


No. 755—Antenode **List Price \$.75**

4 Section Doublet Antenna

Each section adjustable 26" to 42". Can be rotated to any degree of polarization. Impedance at center 72 ohms, matched by EO1 Cable Aluminum Tubing permits outdoor mounting. Special lock bushings hold each section in place simply by turning and pushing down. A 4 1/2" insulator provides mounting for the two 1/4 wave antennas.

No.	Std. Pkg.	10	Each	List Price
159—5 Meter Doublet Antenna				\$4.00



INDOOR RIBBON ANTENNA

It is ideal for operating a radio without an outdoor antenna. It is flexible metallic ribbon which is placed around the room. Easily installed and inconspicuous.

No. 750—Metallic Ribbon Talking Tape... each **List Price \$.50**

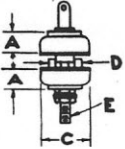


STANDOFF INSULATORS

STEATITE BUTTON



These specially designed steatite button is intended for use to simplify wiring and to be used as a binding post or a binding post insulator, or as a standoff insulator. Attention is called to the uniqueness of the design which prevents either section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.

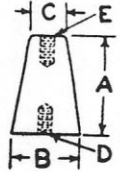


No.	Std. Pkg.	List Price	A	B	C	D	E
457	25	\$.25	5/8"	1/2"	3/4"	1/2"	6-32

CONE STANDOFF INSULATORS

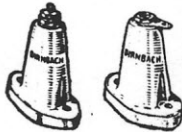


Made of low absorption high tensile strength porcelain with a smooth glaze. All heights except the No. 430 are available with a Jack or a threaded hole top. There are four heights, 5/8", 1", 1 1/2" and 2 3/4" and the range of sizes are adequate for all needs. They are available only in a white glaze and come complete with screws, metal and cork washers.

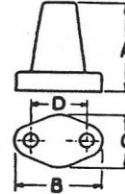


Cat. No.	Height A	List Price	Std. Pkg.	B	C	Threaded Holes D	Mounting Holes E	Mounting Hole
430	5/8"	ea. \$.10	100	5/8"	7/8"	6-32	6-32	5/32"
431	1"	ea. .14	50	1 1/8"	1 1/2"	8-32	8-32	7/32"
431J	1"	ea. .19	50	1 1/8"	1 1/2"	8-32	No. 430 Jack	7/32"
432	1 1/2"	ea. .18	50	7/8"	5/8"	10-32	10-32	7/32"
432J	1 1/2"	ea. .23	50	7/8"	5/8"	10-32	No. 403 Jack	7/32"
433	2 3/4"	ea. .25	25	1 1/4"	3/4"	1/4-20	1/4-20	9/32"
433J	2 3/4"	ea. .40	25	1 1/4"	3/4"	1/4-20	No. 395 Jack	9/32"

STANDOFF INSULATORS

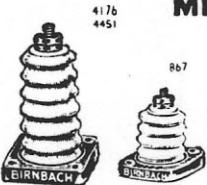


The sizes range from 5/8" to 4 1/2" high in five properly graduated heights. Made of highly vitrified low absorption glazed porcelain. No washers are necessary for mounting these Standoff insulators as the mounting surface is ground flat; but for the No. 405 and No. 966 Standoff insulators, it is advisable to use cork washers which are available as they will permit mounting securely without breakage. All brass nickel-plated hardware is supplied. Available in white or brown glaze.



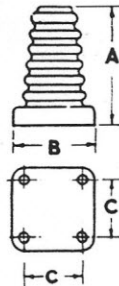
No.	Height A	List Price	Std. Pkg.	B	C	D	Mounting Holes	Hardware
405	5/8"	ea. \$.06 1/2	100	1"	1 7/32"	1 1/8"	5/32"	6-32
965	1"	ea. .07 1/2	50	1 1/4"	3/4"	1 1/8"	5/32"	8-32
966	1"	ea. .07 1/2	50	1 3/8"	7/8"	1"	5/32"	8-32
966J	1"	ea. .10	50	1 3/8"	7/8"	1"	5/32"	No. 403 Jack
866	1 1/2"	ea. .12	25	1 3/4"	1 1/8"	1 1/4"	5/32"	10-32
866J	1 1/2"	ea. .15	25	1 3/4"	1 1/8"	1 1/4"	5/32"	No. 403 Jack
866SJ	1 1/2"	ea. .35	10	1 3/4"	1 1/8"	1 1/4"	5/32"	No. 395 Jack
4275	2 3/4"	ea. .30	10	2 3/4"	2"	2 1/8"	1/4"	1/4-20
4275J	2 3/4"	ea. .55	10	2 3/4"	2"	2 1/8"	1/4"	No. 399 Jack
4450	4 1/2"	ea. .50	5	3 5/8"	2 1/2"	2 5/8"	9/32"	1/4-20
4450J	4 1/2"	ea. .75	5	3 5/8"	2 1/2"	2 5/8"	9/32"	No. 399 Jack

METAL BASE INSULATORS



Metal Base Insulators have been designed to replace conventional porcelain insulators where failure of the base is due to cracking when fastened down. Extremely long leakage paths due to the corrugated surface is one of the important characteristics. They are made from high

tensile strength low absorption porcelain smoothly glazed all over. They are supplied with nickel-plated brass screws and nuts and cadmium plated drawn steel bases.



Cat. No.	Height A	List Price	Std. Pkg.	Base Dimen. B	C	Mounting Screw D	Hardware
867	1 3/8"	ea. \$.18	25	1 7/8" x 1 1/8"	1 1/2"	No. 8	10-32
867J	1 3/8"	ea. .23	25	1 7/8" x 1 1/8"	1 1/2"	No. 8	No. 403 Jack
4176	2 3/4"	ea. .34	10	1 3/4" x 1 3/4"	1 3/8"	No. 10	1/4-20
4176J	2 3/4"	ea. .46	10	1 3/4" x 1 3/4"	1 3/8"	No. 10	No. 395 Jack
4451	4 1/2"	ea. .50	5	5...2 1/4" x 2 1/4"	1 3/4"	No. 10	1/4-20
4451J	4 1/2"	ea. .65	5	5...2 1/4" x 2 1/4"	1 3/4"	No. 10	No. 395 Jack

BEE-HIVE STANDOFF

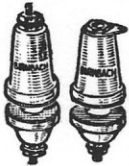


Base measures 2" dia. with 3 holes on a 1 1/8" circle, for No. 6 screws. Supplied complete with 12-24 nickel-plated brass screw and nuts. The No. 766J has a No. 403 Jack. Available white or brown glaze.

No.	Hardware	Std. Pkg.	List Price
766	Standoff Insulator	10-24 Screw	10...\$.15
766J	Jack Type	No. 403 Jack	10... .20

FEEDTHRU INSULATORS

FEEDTHRU INSULATORS



Made of highly vitrified, low absorption porcelain smoothly glazed to prevent accumulation of dust or dirt. Maximum strength is achieved by the proper proportions and flat mounting surfaces. Long insulating sleeves on the lower part of the insulator contribute much to their performance on high voltages. Brass nickel-plated hardware.

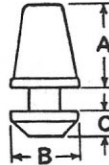


No.	Height A	List Price	Std. Pkg.	B	C	Mounting Hole	Hardware
458	3/8"	ea. \$.12	50	1 1/8"	1/4"	1/8"	6-32
478	1"	ea. .20	25	1 3/8"	1/8"	1/8"	10-32
478J	1"	ea. .25	25	1 3/8"	1/8"	1/8"	No. 403 Jack
4125	1 1/4"	ea. .25	25	7/8"	3/8"	1/8"	10-32
4125J	1 1/4"	ea. .30	25	7/8"	3/8"	1/8"	No. 403 Jack
4234	2 3/4"	ea. .55	10	2"	1"	3/4"	1/4-20
4175	2 3/4"	ea. .50	10	1 1/4"	3/4"	3/8"	1/4-20
4175J	2 3/4"	ea. .75	10	1 1/4"	3/4"	5/8"	No. 394 Jack

CORRUGATED FEEDTHRU INSULATORS



The six new corrugated type feedthru insulators have more than twice the leakage path of the straight type because of increased surface of the corrugations and recommends itself where a straight side insulator of equal height is not satisfactory because of its shorter leakage path. Brass nickel-plated hardware and cork mounting washers supplied.



No.	Height A	List Price	Std. Pkg.	B	C	Mounting Hole	Hardware
479	1 3/8"	ea. \$.35	25	1 1/4"	1 1/8"	1/8"	10-32
479J	1 3/8"	ea. .40	25	1 1/4"	1 1/8"	1/8"	No. 403 Jack
4276	2 3/4"	ea. .65	10	1 5/8"	1"	3/4"	1/4-20
4276J	2 3/4"	ea. .80	10	1 5/8"	1"	3/4"	No. 394 Jack
4452	4 1/2"	ea. .95	5	2 1/8"	1 1/2"	1"	1/4-20
4452J	4 1/2"	ea. 1.10	5	2 1/8"	1 1/2"	1"	No. 394 Jack

HIGH VOLTAGE FEEDTHRU INSULATOR



This insulator has been designed to meet the demand for an insulator having high dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve tapers from a base dia. of 1 1/8" where the electric stress is greatest.

No.	Height	List Price	Base Dia.	Mounting Hole	Hardware
4233	1 5/8"	\$.50	2"	1 1/4"	1/4-20

STEATITE FEEDTHRU PANEL BUSHING INSULATORS



Made of L-5 Glazed Steatite. These Feedthrus have male and female (tops and bottoms) for feeding thru chassis, panels, shields, racks or panels. No hardware included.

Cat. No.	Top Height	Max. Dia.	Panel Hole	Panel Thickness	Max. Screw Size
4204	1/8"	1/2"	3/8"	To 1/2"	6-32
4205	3/32"	5/8"	1/2"	To 1/2"	8-32
4206	3/8"	1/2"	1/2"	To 3/16"	6-32
4207	3/8"	3/8"	3/8"	To 3/8"	8-32
4208	3/4"	1 1/8"	3/4"	To 3/8"	10-32
4209	1 5/8"	1 1/4"	1/2"	To 2"	10-32

STEATITE FEEDTHRU INSULATOR



Useful in many constructions. Has high dielectric and mechanical strength. They are made of L-5 Glazed Steatite. No hardware is included.

Cat. No.	Figure	Height	Base Diam.	Max. Screw Size
4200	A	7/8"	1 1/4"	10-32
4201	A	1 1/2"	1 3/4"	1/4-20
4202	B	1 5/8"	2 1/2"	3/8-16
4203	C	1"	3 3/8"	8-32

"LUCITE" FEEDTHRU INSULATORS



These feedthru insulators are ideal for bringing high frequency leads thru a panel. They are made of genuine Dupont Lucite. Because of its low loss at high frequency, it is well adapted to insulated elements of high frequency circuits. The 1/2" dia. insulators have brass nickel plated 6-32 hardware and the 3/4" dia. insulators, 10-32 hardware.

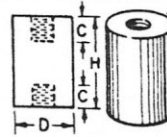
No.	Height above Panel	List Price	Insulator Dia.	Mtg. Hole	Bottom Height
377	1/4"	\$.15	1/2"	1/8"	1/4"
378	1/2"	.20	1/2"	1/8"	1/4"
379	1"	.25	1/2"	1/8"	1/4"
475	1 1/2"	.50	3/4"	1/8"	1/2"
476	2"	.60	3/4"	1/8"	1/2"

PILLARS

BIRNBACH STEATITE PILLARS

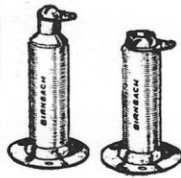
JAN-1-8 and JAN-1-10 SPECS. (Less Hardware)

In many constructions, these unmounted threaded Steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting surfaces. They are made of L5 glazed Steatite with threaded holes on both sides.

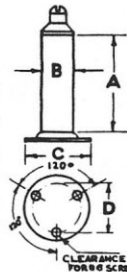


Cat. No.	Old Jan Type Designation	New Mil Type Designation	H	D	Length of Thread	Thread
441			1/4"	1/4"	All	6-32
441B			3/8"	1/4"	3/8"	6-32
441A			1/2"	1/4"	3/8"	6-32
444A			3/4"	1/4"	1/4"	6-32
445A			1"	1/4"	1/4"	6-32
442			3/8"	3/4"	3/8"	6-32
442A	NS5W0104	NL633W01-004	1/2"	3/4"	3/8"	6-32
443A	NS5W0105	NL633W01-005	3/8"	3/4"	1/4"	6-32
444B	NS5W0106	NL633W01-006	3/4"	3/8"	1/4"	6-32
445B	NS5W0108	NL633W01-008	1"	3/4"	3/8"	6-32
446B	NS5W0110	NL633W01-010	1 1/4"	3/4"	3/4"	6-32
446A	NS5W0112	NL633W01-012	1 1/2"	3/4"	3/4"	6-32
446C	NS5W0116	NL633W01-016	2"	3/4"	3/8"	6-32
443			1/4"	1/2"	3/4"	6-32
444			3/2"	1/2"	1/2"	6-32
445			1"	1/2"	3/4"	6-32
446			1 1/2"	1/2"	3/8"	6-32
447			2 1/2"	1/2"	3/8"	6-32
440	NS5W0205	NL633W02-005	3/4"	1/2"	3/16"	8-32
440A	NS5W0206	NL633W02-006	3/4"	1/2"	1/2"	8-32
440B	NS5W0208	NL633W02-008	1"	1/2"	3/4"	8-32
440C	NS5W0210	NL633W02-010	1 1/4"	1/2"	3/8"	8-32
440D	NS5W0212	NL633W02-012	1 1/2"	1/2"	3/8"	8-32
440E	NS5W0216	NL633W02-016	2"	1/2"	3/8"	8-32
440F	NS5W0220	NL633W02-020	2 1/2"	1/2"	3/8"	8-32
440G	NS5W0224	NL633W02-024	3"	1/2"	3/8"	8-32
444C			3/4"	3/4"	1/4"	10-32
445C	NS5W0308	NL633W03-008	1"	3/4"	3/8"	10-32
445D	NS5W0310	NL633W03-010	1 1/4"	3/4"	3/8"	10-32
445E	NS5W0312	NL633W03-012	1 1/2"	3/4"	3/8"	10-32
445F	NS5W0316	NL633W03-016	2"	3/4"	3/8"	10-32
445G	NS5W0320	NL633W03-020	2 1/2"	3/4"	3/8"	10-32
445H	NS5W0324	NL633W03-024	3"	3/4"	3/8"	10-32
445S	NS5W0332	NL633W03-032	4"	3/4"	3/8"	10-32
448			2 1/2"	3/4"	3/4"	1/4-20
449			4"	3/4"	3/4"	1/4-20
447A	NS5W0410	NL633W04-010	1 1/4"	1"	3/16"	1/4-20
447B	NS5W0412	NL633W04-012	1 1/2"	1"	1/2"	1/4-20
447D	NS5W0416	NL633W04-016	2"	1"	5/8"	1/4-20
447E	NS5W0420	NL633W04-020	2 1/2"	1"	5/8"	1/4-20
447F	NS5W0424	NL633W04-024	3"	1"	5/8"	1/4-20
447G	NS5W0432	NL633W04-032	4"	1"	5/8"	1/4-20
447H	NS5W0440	NL633W04-040	5"	1"	5/8"	1/4-20
447J	NS5W0448	NL633W04-048	6"	1"	5/8"	1/4-20

STEATITE PILLARS



These (steatite) pillar insulators have great tensile strength with extremely low losses at very high frequencies and are glazed on the outside to decrease surface leakage. They are tapped on both ends and are supplied complete with nickel-plated mounting base and top hardware.



No.	Height A	List Price	Std. Pkg.	B	Hardware	Base Dia. C	D
450	1"	ea. \$.20	10	1/2"	6-32	1 1/8"	7/8"
450J	1"	ea. .25	10	1/2"	No. 403 Jack	1 1/8"	7/8"
451	1 1/2"	ea. .25	10	1/2"	6-32	1 1/8"	7/8"
451J	1 1/2"	ea. .30	10	1/2"	No. 403 Jack	1 1/8"	7/8"
452	2 1/2"	ea. .30	10	1/2"	6-32	1 1/8"	7/8"
452J	2 1/2"	ea. .35	10	1/2"	No. 403 Jack	1 1/8"	7/8"
453	2 1/2"	ea. .60	5	3/4"	1/4-20	1 1/8"	1 1/8"
453J	2 1/2"	ea. .70	5	3/4"	No. 395 Jack	1 1/8"	1 1/8"
454	4"	ea. .80	5	3/4"	1/4-20	1 1/8"	1 1/8"
454J	4"	ea. .90	5	3/4"	No. 395 Jack	1 1/8"	1 1/8"

Sources and Photo Credits

Front Cover: Birnbach General Catalog No. 41 (1941) Courtesy of Elton Gish

"Birnbach Radio Company, Inc."

- 1: The Radio Trade Directory Aug, 1925 Vol. 1 No. 4.
 - 2: Chesson, F.W. *Electronic Military Equipment: Naval Equipment Manufacturers AWA Review* Vol. 7 1991.
 - 3: IRE Directory - 1962 The Institute of Radio Engineers
 - 4: Bell Industries "Birnbach" 1997: Bell Industries Inc.
http://www.bellind.com/bell/products/prod_bir.html
- Figure 1: U.S. Patent Gazette Vol. 362 No. 3 September 20, 1927 pg. 499.

Other Works Consulted:

Birnbach 1938 Catalog (Courtesy of Dick Mackiewicz)
Birnbach Catalog No. 41 (1941) (Courtesy of Elton Gish)
Electronic Design's Gold Book, Hayden Publishing Company, Inc. 12th Ed. 1985/1986.
Hammond Ambassador World Atlas, Hammond Incorporated. 1973.
1996 Directory of Corporate Affiliations "Who Owns Whom" Vol. 3 U.S. Public Companies
Thomas Register of American Manufacturers 1929, 1932.
Lois Blair, Gene Condon, Dick Mackiewicz, Jim Singleton

Birnbach Logos:

Birnbach 1938 Catalog (Courtesy of Dick Mackiewicz)
Birnbach Catalog No. 41 (Courtesy of Elton Gish)
current logo courtesy of The Birnbach Radio Company

Birnbach Antenna Components Checklist:

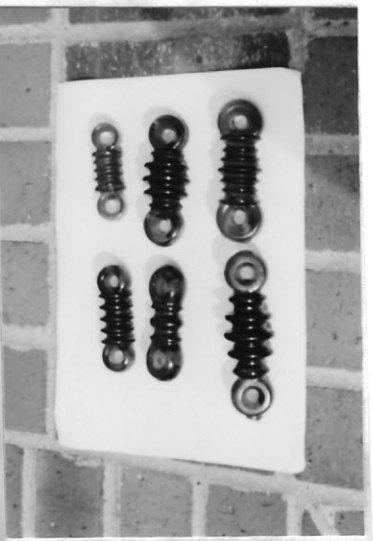
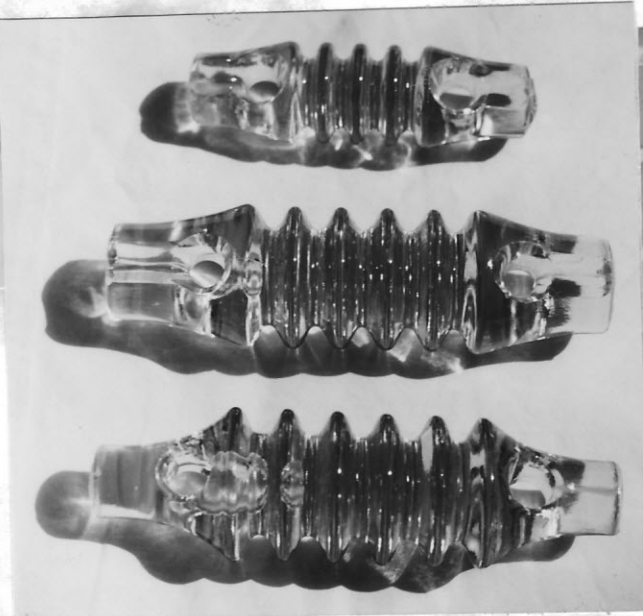
Birnbach 1938 Catalog (Courtesy of Dick Mackiewicz)
Birnbach Catalog No. 41 (Courtesy of Elton Gish)
Birnbach Catalog Circa 1960's (Courtesy of Birnbach Company)
Insulator Notebook, Dick Mackiewicz
Radio's Master 1955 & 1963

Birnbach Product Illustrations:

Birnbach 1938 Catalog (Courtesy of Dick Mackiewicz)
Birnbach Catalog No. 41 (Courtesy of Elton Gish)
Birnbach Catalog Circa 1960's (Courtesy of Birnbach Company)

Photographs on Page 22:

Birnbach transposition insulator: Dick Mackiewicz
Birnbach flat dog bone insulator: Lois Blair
"antenna ball" insulators: Jim Singleton
"counterfeit" insulators: Jeff Hogan
swap meet photos: Dan Howard



Chuck Irwin
(facing camera)

Gil Hedges-
Blanquez's
offerings

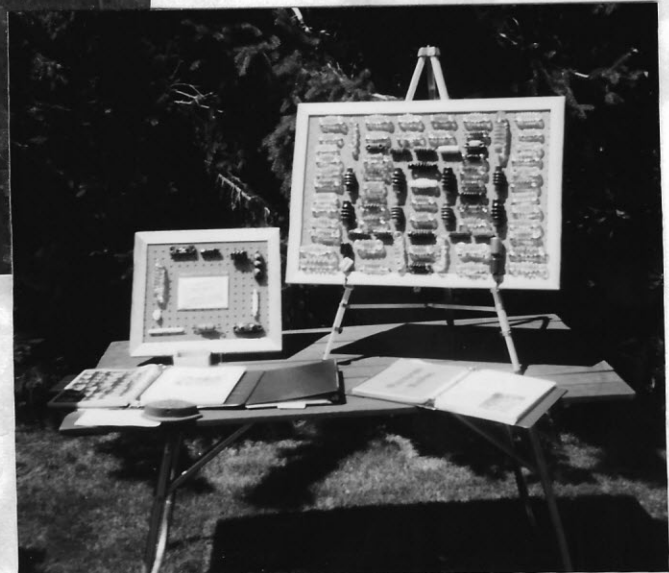


**1st Annual
Filling the Void
Insulator Show and Sale
August 9, 1997
Portland, Oregon**

Ed Sellberg's insulators
(below)



some collectible
strains
(above and right)



Show Reports

NIA National Show, Chicago, IL July 25-27

Lots of OFS readers attended the National Insulator Association's national this year in Chicago. **Gene Condon** reports finding a few new strains, bringing his impressive collection up to over 480 pieces!

Elton Gish related the story of the big one that didn't get away. With some reluctance, Elton took possession of a whole table full of porcelain insulators. (He wasn't sure that he had really "won" the bid when it was awarded to him--all those insulators and miles from home....) By Sunday afternoon however, he had most of the horde dispersed, bringing joy to a lot of beginning collectors in the process.

I understand that the show hosts, **Bob Stahr** and **Rick Soller**, may still be packing their cars at the show site. Gene says that the combined display of "radio strains and "other" insulators" was interesting and popular.

The Other Chicago Show, Elgin, IL Aug. 6-10

My personal shopper (AKA Dad) struck again. My folks were in the Chicago area for a family reunion in late July and then stayed for a few days to visit with various friends and relatives.

On the morning of July 28th, Dad saw an ad in the paper about the Radiofest show in Elgin, IL. Yes, I can't believe that we had forgotten about the nation's largest annual antique radio swap meet, but it came as a total surprise to him. My personal shopper visited the flea market each morning of the

show and came away with several new items. By just picking up "interesting looking items", Dad added 4 new types of lightning arresters and several unusual strains to my collection. While they were here for the Filling the Void show, (story below), **Gil Hedges-Blanquez** and **Tim Wood** looked over the very different "Zenith" porcelain strain that Dad found. This petite strain has the wire holes close to the center of its body. Stiff wire "keepers" wrap around the conductors to hold them in place.

In the future, I think that my personal shopper will be attending shows in my place. He seems to do much better than I do.

"Filling the Void" Insulator Show and Sale, Portland, OR Aug. 9th (pictures on page 22)

Although we are blessed with a number of local collectors, the Portland-area had not had an insulator show since the NIA nationals were here in 1990. So, in order to "fill the void," Chuck Irwin and I were pleased to cohost an informal tailgater swap meet on August 9th.

About 20 people got together in my parent's back yard, taking shelter from the 80+ degree heat in the shade of their tall trees.

OFS readers **Gil Hedges-Blanquez** and **Tim Wood** attended and brought interesting items to show and swap. And each of them took home some new ones. In addition to meeting a number of nice people, I was able to trade for a couple of new insulators, myself. I hope that you enjoy the show pictures on page 22. Your continuing support of OFS has made it possible to include another full color page this year.

New Unfamiliar Strains

by Dan Howard

Well, it seems that someone with a fancy microwave down in the Southeast has entirely too much time on his hands. In a recent letter, **Jeff Hogan** brought the issue of altered strain insulators to my attention. At a Florida show, Jeff purchased the brown glass strains shown in the color photo on page 22. According to Jeff, the insulators were turned brown after they were irradiated with cobalt radiation. I turned to the local expert on fakes, **Dwayne Anthony**, to get the rest of the story. [For a color picture of Dwayne's display of fakes at the 1996 NIA National Convention, see the insulator web page. Ed.]

Dwayne tells me that he has been getting a number of reports of suspect brown glass insulators showing up at Florida shows. And it may not be limited to the Southeast. **Jim Singleton** reports that two "unattractive grayish amber" fakes were brought to the Yankee Polecat show at Holyoke, MA, this year.

Apparently, someone is exposing common clear glass insulators to a source of ultraviolet radiation (such as cobalt 60). This has the effect of turning them various darker colors. Dwayne's contacts explain that it has something to do with the presence of selenium (used as a clarifying agent) in the glass.

Dwayne points out that the process sometimes has the interesting and entertaining effect of leaving the glass slightly radioactive. (You might think twice about bringing your next find home in your pocket....) I forgot to ask if they glow in the dark! But seriously, you can test suspect insulators for color-fastness.

Jeff sent me a sample of one of the brown insulators (which I just moved off of my computer table and put in a lead-lined box in the back yard). After breaking the insulator, Jeff placed half of it in a warm (not hot) oven. After a period of time, the heated half had lightened noticeably. It has not gone back to clear, but it is obviously not color-fast.

You should always be careful about exposing what could be a legitimate and desirable colored glass insulator to extreme heat or cold (unless you collect cracked and broken insulators). As Jeff points out in his letter, whether you test them or not, several of the insulators in the picture are obvious fakes. You will probably recognize the profile of the Fleron in the picture. This insulator, and several other familiar items are found in many of our collections and were previously unknown in brown. In fact, aside from that legendary "Mexican glass," which is itself very recognizable, I think that you would agree that, in strains, brown is generally an unusual and desirable color.

So, it looks like the fakers have finally decided to try altering radio strain insulators. Perhaps the disorganization of our hobby is a good thing and will serve to discourage those who would alter glass in hopes of a quick profit. I hope that it will stop though. I must admit that if I had seen Dwayne or Jeff's insulators for sale somewhere, I would have been very tempted.