

Catalog 2012B
Fiber Optics

PE PASTERNAK



The Broadest Selection of RF & Microwave Components
and Assemblies Available for Same-Day Shipping...

Over 40 Years!



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866-727-8376



INDEX GUIDE TO FIBER OPTIC PRODUCTS

For the complete selection of our Fiber Optic components and assemblies, please visit the Fiber Optic sections on our website at www.pasternack.com

FIBER OPTIC CATEGORIES

F/O MODE CONDITIONING CABLE ASSEMBLIES



Mode conditioning cable assemblies are mainly used in Gigabit Ethernet (1000 BaseLX) applications where there is a requirement for interconnection of both single mode fiber channels and multimode fiber channels.

F/O ADAPTERS



Pasternack offers ST, FC & SC, Single Mode, Multimode, Simplex & Duplex Adapters.

F/O CABLE ASSEMBLIES

Single Mode UPC 8.3/125,
Single Mode APC 8.3/125,
Multimode 62.5/125 & 10GB
Multimode 50/125



F/O LOOPBACKS

Fiber Optic Loopbacks are designed to provide a return path for a fiber optic signal and is typically used for fiber optic testing applications or network restorations.

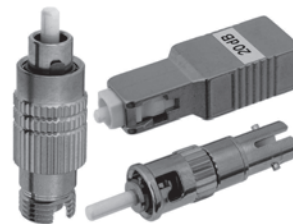


OPTICAL AUDIO CABLE ASSEMBLIES



Optical Audio Cable and digital optical patch cables are used to transmit S/PDIF digital audio information in optical form (red light).

F/O ATTENUATORS



Pasternack Single Mode Fixed Fiber Optic Attenuators offer low return loss, high mode stability and a variety of attenuation values: 5, 10, 15, 20, 25 and 30 dB.

NOTES:

These Fiber Optic categories are a representation of what you will find on our website. To view our entire Fiber Optic offering, please visit www.pasternack.com.

If you have additional questions regarding our Fiber Optic products, please contact our Technical Service department directly at 1-866-727-8376 or techsupport@pasternack.com



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via UPS Ground
to USA & Canada



Real-Time Stock
Levels & Pricing
On Our WebSite



Toll-Free Technical
Support
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Same-Day Shipping,
Even Custom
Cable Assemblies

PASTERNAK ENTERPRISES -- REACH PRODUCT COMPLIANCE PROGRAM

What is REACH Compliance?

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 is commonly referred to as REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals). The REACH regulation became effective on June 1, 2007 to streamline and improve the former legislative framework for chemicals available in the European Union (EU) and European Economic Area (EEA) countries.

The objective of REACH is to improve protection of human health and the protection of the environment from the exposure to chemicals. REACH compliance is mandatory for products manufactured in, or imported into the European Union (EU).

As outlined by the REACH regulation, any organization manufacturing, importing, using or placing a substance, mixture, article or product on the EU market will be responsible for ensuring that the component substances are in compliance with REACH regulations.

Determining REACH Compliance of Pasternack Products:

Pasternack Enterprises does not currently either manufacture or import any chemical substances into the EU on their own or in articles (products) in quantities of 1 ton or more per year. In addition, products imported by Pasternack Enterprises' customers do not contain chemical substances intended to be released during the normal and reasonably foreseeable conditions of the product's use as defined by the REACH regulation and existing guidance.

However, under REACH, there is an obligation to ensure that articles do not contain <0.1% by weight of Substances of Very High Concern (SVHCs). SVHCs are substances that may cause cancer or other serious health or environmental effects and thus face restriction or outright bans, and are listed in a regularly-updated 'Candidate list'. The current Candidate list can be downloaded from the European Chemicals Agency (ECHA) website:

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp



For each part that has been found to comply with the REACH SVHC reporting requirements, we show an indication of compliance adjacent to the part number using this symbol:

All products displaying this symbol on our website are assured to contain no SVHCs as defined by the Candidate List displayed on the Pasternack REACH certificate. When you locate the product you need on our website, please click on the "Product ID or Part Number". You will see the "REACH symbol" for the specific part. Click on this symbol to view the Certificate of REACH Compliance (printable if needed) for the specific product as well as the applicable ECHA SVHC Candidate list Date.

Pasternack Enterprises - REACH Product Compliance Program:

At Pasternack Enterprises, we recognize our responsibility as a worldwide supplier of RF, Microwave and Fiber Optic Products subject to the REACH regulations. We have completed a comprehensive effort internally and with our supply chain to determine the REACH compliance of our products. You will find our Reach Symbol adjacent to all products on our website that have been determined by Pasternack and our supply chain to contain less than 0.1% by weight of the REACH substances. You will also see the applicable ECHA SVHC Candidate List Date. "Please refer to our website at www.Pasternack.com.

The Pasternack Enterprises REACH Product Compliance Program is implemented in accordance with Regulation No. 1907/2006 of the European Parliament and the Council of 18 December 2006. Pasternack has implemented a REACH compliance program to address this legislation. Pasternack Enterprises does not currently either manufacture or import any chemical substances into the EU on their own or in articles (products) in quantities of 1 ton or more per year. In addition, products imported by Pasternack Enterprises' customers do not contain chemical substances intended to be released during the normal and reasonably foreseeable conditions of the product's use as defined by the REACH regulation and existing guidance. Thus, Pasternack Enterprises does not currently have a direct REACH obligation to pre-register substances. Pasternack's REACH Product Compliance is determined by a certification from our supply chain. A Pasternack product is deemed to be REACH compliant when it does not contain Substances of Very High Concern (SVHCs) beyond the specified concentration limits of less than 0.1% by weight as outlined in REACH 1907/2006/EU regulation.

Need More Information?

If you have questions regarding REACH Product Certification on Pasternack's products, please contact the Pasternack REACH Compliance Team via email at REACH@Pasternack.com or by calling Toll-Free within North America at 1-866-PASTERNAK (1-866-727-8376). International customers, please call +1-949-261-1920.

PASTERNAK ENTERPRISES RoHS COMPLIANCE PROGRAM

Lead-free solder is now available for all cable assemblies upon request or online at www.Pasternack.com.

What is RoHS Compliance?

The European Union set forth the RoHS (Restriction of Hazardous Substances) Directive to establish environmental guidelines and legislation to reduce the presence of six (6) materials deemed hazardous to the environment. To comply, products entering the EU must not have a homogeneous presence of these materials above the following levels by weight percentage:

- Lead (Pb) < 0.1%
- Mercury (Hg) < 0.1%
- Cadmium (Cd) < 0.01%
- Hexavalent Chromium (CrVI) < 0.1%
- Polybrominated Biphenyls (PBB) < 0.1%
- Polybrominated Diphenyl Esters (PBDE) < 0.1%

At Pasternack, we recognize our responsibility as a supplier of coax connectors, cable assemblies, and components used within electronic-based systems and products that are targeted for RoHS compliance. We are fully committed to offering RoHS compliance on the majority of our products. We have completed a comprehensive evaluation and analysis program both internally and with our suppliers to establish and publish RoHS compliant statements for our products on our website.

Determining Pasternack RoHS Compliance

To determine if the product in our catalog is RoHS Compliant, please first refer to our website at www.Pasternack.com. For each part, we show an indicator of compliance using this symbol:



All products displaying this symbol on our website have been certified as RoHS Compliant. Click on this symbol to view the Certificate of RoHS Compliance for this product.

We recognize that you may have specific questions regarding RoHS certification on Pasternack's components and products. We will be happy to process all such requests as quickly as possible. Please direct any such requests to Pasternack Enterprises Technical Support via email at TechSupport@Pasternack.com or by calling Toll-Free within North America at 1-866-PASTERNAK (866-727-8376). International customers, please use +1-949-261-1920.

Methods Determining RoHS Compliance

RoHS Compliance is determined by a combination of supplier certification and engineering design verification. In most cases, Pasternack's products were determined to be RoHS Compliant. In many cases, the Compliance was through a stated Exemption to the RoHS Directive. As a supplier of coaxial connectors, adapters, and RF components, Pasternack uses materials such as Brass and Stainless Steel which contain lead as a percentage of weight above the 0.1% threshold, but are allowed through the Exemptions as of the October 21st, 2005 RoHS Directive amendment. Pasternack uses these Exemptions to the RoHS Directive where applicable.

What are the Exemptions?

RoHS Directive text as of the Oct 21st, 2005 amendment is underlined, and how it applies to Pasternack products is indicated below each Exemption.

ANNEX to ROHS DIRECTIVE 2002/95/EC

"Applications of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) which are exempted from the requirements of Article 4(1)":

5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.

Some Pasternack products use resistive and/or dielectric inks that contain lead in a glass phase and fall under this exemption 5.

6. Lead as an alloying element in steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy containing up to 4% lead by weight.

Most Pasternack products use metal alloys that contain lead below the maximum concentration values specified under this exemption 6. Specifically: aluminum alloys, brass, stainless steel, beryllium copper and phosphor bronze.

7. Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunications.

All Pasternack coaxial cable assemblies are made using solder containing lead (unless lead-free solder is specified), and may be used in network infrastructure equipment and therefore would fall under this exemption 7. This exemption is application specific, however, and we therefore leave it up to our customer to determine whether this exemption applies to their application.

Pasternack has loaded new part numbers for cable assemblies using lead-free solder on our website, using the format PE3xxxxLF-yy, where "xxxx" identifies the part using the existing corresponding item number, and "yy" identifies the length in inches. For example, PE3067LF-24 is the same as PE3067-24 (BNC Male to BNC Male, RG58C/U), except it uses lead-free solder to be fully ROHS Compliant.

MAILING LIST CHANGES

If you receive more than one catalog with the same name and address, please notify Pasternack and pass the catalog along to a friend. Also, if you do not require multiple copies to the same company address, contact a sales representative to verify and modify your mailing information. A forms-based communications method to add, delete or modify mailing information is available at www.pasternack.com. By clicking "Contact Us", and then clicking "Remove Name from Mailing List", you may complete the form to request a change to your mailing preferences. In addition, by clicking "Catalog", and then clicking "Request a Printed Catalog", you may add your contact information to our mailing list. Please note service opt-in and opt-out options located on the forms. Alternatively, you may mail, email, telephone or fax Pasternack your request.

PLACING YOUR ORDER

► **By Telephone: 866-PASTERNAK (866-727-8376)**
US & Canada, or 949-261-1920

Our friendly sales representatives are ready to serve you from 5:00am to 5:30pm Pacific Standard Time (PST), Monday through Friday. For the most efficient service, please have ready a list of quantities and part numbers and, if paying by credit card, your MasterCard, VISA, American Express or Discover card. Note: Calls may be recorded or monitored for quality and training purposes.

► **By Fax: 949-261-7451**

Our fax lines can be accessed 7 days a week, 24 hours a day. Orders received after 4:00pm PST will be promptly processed and shipped the next business day. Please include your daytime phone number and/or email address in case we have any questions about your order.

► **By Internet: www.Pasternack.com**
or Email: sales@pasternack.com

Order online 7 days a week, 24 hours a day using our online ordering system. Just search for the items you want and add them to your shopping cart. Internet orders entered after 4:00 pm PST will be promptly processed and shipped the next business day.

► **By Mail: Simply Mail Your Order To:**
Pasternack Enterprises, Inc.
17802 Fitch
PO Box 16759
Irvine, CA 92623-6759 USA

International customers, please see "International Orders" below for additional information.

Terms and Conditions of Sale:

The following from Pasternack's Binding Terms and Conditions of Sale are provided for your convenience. A complete documentation of the Binding Terms and Conditions of Sale may be found in the back of the catalog, or on Pasternack's website at <http://www.pasternack.com/TermsOfSale.aspx>. Any questions or clarifications may be answered by contacting Customer Service at (+1) 949-261-1920 or by any of the methods listed above.

Minimum Order:

A minimum order of \$50.00 is required. There is no minimum line item required.

Handling Charge:

A \$10.00 handling charge applies to all orders less than \$100.00. This fee will be waived on orders of \$100.00 or more.

Ground Freight is Free:

On UPS Ground orders, there is no charge for shipping for USA & Canada orders of \$100.00 or greater. Otherwise, shipping or freight charges and insurance will be paid by the customer. All sales are made FOB Point (as defined by the INCOTERMS 2000) in Irvine, CA USA. Shipping or freight charges from Pasternack's Irvine, CA factory are prepaid and added to the invoice or billed collect.

Same-Day Shipment:

Same-day shipment will apply to orders received Monday through Friday, prior to 4:00pm PST.

- All UPS air and surface options
- All FedEx air options (with an approved account number)
- Most other shipping options, including DHL (with an approved account number) and USPS

Counter-to-Counter Shipping:

For your urgent order requiring our fastest shipping method, we will place your order on the next available flight from Santa Ana-Orange County John Wayne International Airport (Airport code: SNA) to the destination you specify. Please call for details.

Payment Terms:

Pasternack offers a number of convenient payment methods:

For United States customers, we offer check, money order, MasterCard, VISA, American Express, Discover, and C.O.D. as well as open account credit to qualified institutions and businesses. Payment must be made in US Dollars.

For Canadian customers, we offer all of the above payment options except C.O.D.
For International customers, see International Orders.

Open Account Credit:

Net 30 Days terms are available to businesses, schools and agencies subject to credit approval. Approval can begin by submitting a completed Credit Application, which can be found online at: www.Pasternack.com/CreditApplication.aspx

EFT/Wire Transfers:

Please contact us for details. We will inform you of the total amount which will include shipping charges and any applicable wire transfer fees. Orders will not be accepted until funds have been received in full.

WELLS FARGO BANK

420 Montgomery St.
San Francisco, CA 94104 USA
Account Number: 4270 0000 0000 0000 1
Routing Number: 121000248
SWIFT Number: WFBUS6S

International Orders:

In addition to the United States and its territories, Pasternack accepts international orders. All orders of international origin are exported from the US in accordance with the Export Administration Regulations. Diversion contrary to US Law is prohibited. Please see Pasternack's Binding Terms and Conditions of Sale for full details.

Pasternack has international distributors for the following countries:

Asia-Pacific: Australia, China PRC, India, Indonesia, Japan, Korea, Malaysia, New Zealand, Singapore, Taiwan, Thailand

Europe: Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Norway, Slovakia, Sweden, Switzerland, Turkey, United Kingdom

Middle East: Israel

To access their complete contact information, please see our International Distributors section in this catalog.


International Shipping Charges:


Shipping or freight charges and insurance will be paid by the customer. All sales are made FOB Point (as defined by the INCOTERMS 2000) in Irvine, CA USA. We ship orders by UPS, FedEx (with an approved account number), or DHL (with approved account number) with delivery in 2 to 3 days to most locations worldwide.


International Taxes and Duties:

Customer is responsible for duties and taxes.

 Free Freight Available
via UPS Ground
to USA & Canada

 Real-Time Stock
Levels & Pricing
On Our WebSite

 Toll-Free Technical
Support
(866) 727-8376

 Same-Day Shipping,
Even Custom
Cable Assemblies

BINDING TERMS AND CONDITIONS OF SALE

The following are the terms and conditions ("Terms and Conditions") for the sale of products ("Products") by Pasternack Enterprises, Inc. ("Pasternack") to Pasternack's customers ("Customers"). Please read this agreement carefully. Any different or additional terms set forth in customer's purchase order or similar communication are objected to and shall not be binding on the company unless a separate agreement has been signed by an authorized officer of the company. By placing an order for products from the company, or by accepting delivery of the products described on the applicable packing slip, bill of lading and/or invoice received with the products, you agree to be bound by and accept these terms and conditions of sale.

1. ACCEPTANCE AND CANCELLATION OF ORDERS

All orders are subject to acceptance by Pasternack in writing by a duly authorized agent of Pasternack; any written acknowledgement of receipt of an order shall not, in and of itself, constitute such acceptance. Orders accepted and processed by Pasternack may not be cancelled by Customer except as covered by the Limited Warranty, all sales are final. Cable Assemblies and Non-Standard Products are also Non-Cancelable/Non-Refundable ("NC/NR"). Non-Standard Parts are defined as Products which are special orders, custom orders, orders for non-standard products, products not customarily in stock or orders for value-added products. In the event of cancellation or other withdrawal of an order for any reason and without limiting any other remedy which Pasternack may have as a result of such cancellation or other withdrawal, reasonable cancellation or restocking charges, which shall include all expenses then incurred and commitments made by Pasternack, shall be paid by Customer to Pasternack. Customer requests to reschedule are subject to acceptance by Pasternack in its sole discretion. Orders may not be rescheduled after the order has been submitted by Pasternack to the shipment carrier.

2. PRICES

Orders are billed at the prices (in US dollars) in effect at the time of shipment. Prices will be as specified by Pasternack and will be applicable for the period specified in Pasternack's quote. If no period is specified, quoted prices will be applicable for thirty (30) days. The catalog reflects the latest pricing information available at the time of printing. Prices shown in the catalog are subject to change without notice. Prices are subject to change in the event of a change in Pasternack's costs or other circumstances beyond Pasternack's reasonable control. Prices are exclusive of taxes, impositions and other charges, including: sales, use, excise, value added and similar taxes or charges imposed by any government authority, international shipping charges, forwarding agent's and broker's fees, bank fees, consular fees, document fees and import duties.

3. TERMS OF PAYMENT

All payments must be in US Dollars, or will be converted to US Dollars using the available exchange rate at the time of purchase.

Credit cards accepted are MasterCard, VISA, Discover, and American Express credit cards, purchase cards and major bank debit cards. Payment via net thirty (30) days is available to businesses, schools and agencies or as otherwise specified by Pasternack subject to approved credit.

For International Orders

Credit cards accepted are MasterCard, VISA, and American Express. Payment via open credit account with Net thirty (30) days can be established for companies having three U.S. references. Prepaid Wire Transfer: You can wire the funds to our bank. We will contact you with the total amount which will include shipping charges and a \$40 wire transfer fee. Orders will not be accepted until funds have been received in full and Purchase Order (PO) has been received. Customer is responsible for duties and taxes.

4. SALES TAX

Only California residents need to remit sales tax. Pasternack does not remit sales tax to states other than California. Any sales tax due that is not collected by Pasternack is the responsibility of the customer.

5. TOLERANCES

All coaxial cable assemblies displayed in the Pasternack catalog and website have a standard cable length tolerance of $\pm 1.5\%$ or $\frac{3}{8}$ inches (0.375"), whichever is greater. Cable Assemblies in excess of this tolerance factor are eligible for repair and / or replacement under the terms of the Pasternack Limited Warranty.

6. DELIVERY AND TITLE

Shipping or freight charges and insurance will be paid by the customer. All sales are made FCA Shipping Point (as defined by the INCOTERMS 2000) in Irvine, CA USA. Shipping or freight charges from Pasternack's Irvine, CA facility are prepaid and added to the invoice, or billed collect. Subject to Pasternack's right of stoppage in transit, delivery of the Products to the carrier will constitute delivery to Customer and title and risk of loss will pass to Customer. Pasternack will make reasonable efforts to initiate shipment and schedule delivery as close as possible to Customer's requested delivery date(s). Customer acknowledges that delivery dates provided by Pasternack are estimates only and that Pasternack will not be liable for failure to deliver on such dates. Selection of the carrier and delivery route will be made by Pasternack unless specifically designated by Customer. Pasternack reserves the right to make deliveries in installments. Delay in delivery of one installment will not entitle Customer to cancel any other installment(s). Delivery of any installment of Products within thirty (30) days after the date requested will constitute a timely delivery. Delivery of a quantity which varies from the quantity specified shall not relieve Customer of the obligation to accept delivery and pay for the Products delivered.

7. PASTERNAK'S LIMITED WARRANTY

All products are covered by a LIMITED WARRANTY for a period of ninety (90) days from the date of shipment when purchased from Pasternack Enterprises, Inc. Customer must notify Pasternack within 90 days from date of shipment of any defective product. An approved Return Materials Authorization (RMA) number must first be obtained from Pasternack prior to the return of any merchandise to Pasternack for inspection under warranty. Shipping charges for all materials returned under this Limited Warranty are to be prepaid by the Customer. This warranty is limited to the original purchaser. Pasternack's liability arising out of any sale of products to Customer is expressly limited to either (1) Credit for the purchase price paid by Customer for such products (without interest), or (2) Repair and/or replacement of such products, found to be defective after inspection by Pasternack, and such remedies shall be exclusive and in lieu of all others. This warranty is in lieu of any and all other warranties, whether oral, written, expressed, implied or statutory. Further, no warranty will apply if the Product has been subject to misuse, neglect, accident or modification, or has been soldered or altered in any way.

All returns must be shipped to:
Pasternack Enterprises, Inc.
17802 Fitch
Irvine, CA 92614 USA

8. LIMITATION OF LIABILITIES

In no event shall Pasternack be liable for any special, incidental or consequential damages of any nature including, but not limited to, damages resulting from loss of profit or revenue, recall costs, claims for service interruptions or failure to supply downtime, testing, installations or removal costs, costs of substitute products, property damage, personal injury, death or legal expenses. Customer's recovery from Pasternack for any claim shall not exceed the purchase price paid by Customer for the goods, irrespective of the nature of the claim, whether in warrant, contract or otherwise. CUSTOMER SHALL INDEMNIFY, DEFEND AND HOLD PASTERNAK HARMLESS FROM ANY CLAIMS brought by any party regarding products supplied by Pasternack and incorporated into the customer's product.

9. STATEMENTS AND ADVICE

If statements or advice, technical or otherwise, are offered or given to Customer, such statements or advice will be deemed to be given as an accommodation to Customer and without charge and Pasternack shall have no responsibility or liability for the content or use of such statements or advice.

10. EXPORT CONTROL

Products purchased or received under these Terms and Conditions are subject to export control laws, restrictions, regulations and orders of the United States. Customer agrees to comply with all applicable export laws, restrictions and regulations of the United States or foreign agencies or authorities, and shall not export, or transfer for the purpose of re-export, any product to any prohibited or embargoed country, including but not limited to The Balkans, Belarus, Burma, Cote d'Ivoire, Cuba, the Democratic Republic of the Congo, Iran, Iraq, North Korea, Sudan, Syria, and Zimbabwe, or to any denied, blocked, or designated person or entity as mentioned in any such United States or foreign law or regulation. Customer represents and warrants that it is not on the Denied Persons, Specially Designated Nationals or Debarred Persons List (as identified by the U.S. Treasury Office of Foreign Asset Control (OFAC) and by the U.S. Department of Commerce, Bureau of Industry and Security (BIS)), or any other United States or other government list of prohibited persons; and otherwise prohibited by United States or other law from purchasing the products or services hereunder. Customer shall be solely responsible to obtain any license to export, re-export or import as may be required.

11. GENERAL

The Terms and Conditions may not be modified or cancelled without Pasternack's written agreement. Accordingly goods furnished and services rendered by Pasternack are sold only on the terms and conditions stated herein. The Terms and Conditions will be governed by and construed in accordance with the laws of the State of California and the applicable laws of the United States of America. If Customer chooses to access the Pasternack Web Site from outside the United States, Customer does so on their own initiative and is responsible for compliance with all applicable local laws.

12. INTELLECTUAL PROPERTY

The drawings, text, product depictions, logos, content, product descriptions, and organization and taxonomy of this catalog and of the described content within this catalog are proprietary to Pasternack and protected by intellectual property laws, including but not limited to United States Copyright law and United States Trademark law. Pasternack owns copyrights in these referenced works as well as the selection, arrangement, coordination and structure of the arranged content and works within this catalog. Use of this catalog does not give you any right to modify, reproduce, transmit, publish, publicly display, adapt, or create derivative works or in any way exploit any of the materials and content of this catalog.

GLOSSARY OF RF TERMS

Absorption: The loss of power resulting from conversion of power into heat.

Albaloy: A "tri-metal" plating finish comprised primarily of copper, tin and zinc which provides good electrical performance. It also provides excellent passive intermodulation (PIM) performance comparable to silver.

Attenuation: Attenuation, measured in decibels (dB), is the reduction in signal power that occurs when a signal travels over long distances.

Bandwidth: The difference between the upper and lower frequencies in a continuous set of frequencies.

Circulator: A passive, three-port device used to control the direction of signal flow in an RF circuit.

Coaxial Cable: A cable with an inner conductor surrounded by a flexible and tubular insulating layer, then surrounded by a tubular conducting shield.

Coaxial Connector: Typically used with coaxial cables, these connectors are designed to maintain shielding and minimize the change in transmission line impedance at the connection. A RF connector is an electrical connector designed to work at radio frequencies.

Contact: The part of an interconnect that interfaces between the connector and the lead or coaxial center conductor on the device being connected.

DC block: A capacitor that allows you to separate Direct Current (DC) voltages along a transmission line.

Decibel (dB): A decibel is a logarithmic unit expressing the ratio of two powers. It is ten times the logarithm to base 10 of the ratio of two powers.

Dielectric: In a coaxial cable, the dielectric is the insulation between the inner and outer conductor. Dielectric influences the electrical properties such as impedance and velocity.

Diode: An electronic device with low resistance that allows current to flow in only one direction.

DWV: Acronym for Dielectric Withstanding Voltage. DWV is the minimum voltage requirement of a connector's insulating material to ensure high voltage surges will not cause dielectric failure.

Ferrule (Coaxial): A short tube used to make solderless connections to a coaxial cable (as in crimping)

Ferrule (FO): A component of a fiber optic connection that aligns and holds a fiber in place.

Fiber Optics: The transmission of radiant energy (or light) through an optical wave guide, generally made of glass or plastic.

Flange: A projection with holes extending a connector or waveguide that permits mounting the connector or waveguide to a panel, or to another mating half.

Frequency: Is a signal of AC alternating current (AC) that swings from a high peak to a negative point. Each swing from crest to trough of the wave is called a cycle. Frequency is the number of cycles per second that is measured in Hz (Hertz), where 1 Hz = 1 CPS (Cycles per second)

Gain: The ratio of power output to the power input of the amplifier in dB.

GHz: Frequency measurement that equals a billion cycles per second. For example, 7 GHz = 7 billion cycles per second.

Impedance: A measurement of resistance calibrated in "Ohms" which varies with frequency.

Insertion Loss: In a transmission system, it is the change in load power due to the insertion of a particular device.

Jacket: On a coaxial cable, it is a non-metallic, outer protective cover applied over an insulated wire or cable.

Land Mobile Radio: Also referred to as LMR, is a wireless communications system intended for terrestrial use, typically by users in vehicles or on foot.

MHz: Frequency measurement that equals a million cycles per second. For example, 3 MHz = 3 million cycles per second.

Microwave: A wavelength on the electromagnetic spectrum lying between the infrared and the radio frequency range. Microwaves extend from 1 GHz to 300 GHz.



Free Freight Available
via UPS Ground
to USA & Canada



Real-Time Stock
Levels & Pricing
On Our WebSite



Toll-Free Technical
Support
(866) 727-8376



Same-Day Shipping,
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Cable Assemblies

GLOSSARY OF RF TERMS

MIL: Abbreviation for "Military" (as in Military Standards.)

Mixer: Provides frequency translation from the input signal to the output signal. It is a nonlinear electrical circuit that creates new frequencies from two signals applied to it.

Noise: Random electrical signals, generated by circuit components or by environmental disturbances.

Passive Intermodulation (PIM): Simply put, Passive Intermodulation (PIM) is interference of a signal. PIM is a nonlinear response that occurs when two or more signals are present in a passive device such as a cable, connector, coupler. PIM is typically caused by dissimilar metals or dirty/loose interconnects.

Phase Shift: The change in time experience by voltage or current after passing through a circuit or cable. Phase shift is a delay in time that is commonly expressed in degrees or picoseconds when it relates to connectors or cable assemblies.

Polarization: Describes how a material responds to an applied electric field as well as the way the material changes the electric field.

Propagation: Moving or Transmitting energy along a path.

Pulse: A rapid change in signal level over a relatively short period of time.

Receiver: A device that detects a signal and converts it into an electrical form that is usable by other electronic devices.

Return Loss: Expressed in dB, it is a measure of the amount of reflected power on a transmission line when it is terminated or connected to any passive or active device.

RF Leakage: The amount of signal frequency which radiates (leaks) from the RF connector or cable.

RG/U: Symbol for cables that are made to Government Specification. The "R" stands for Radio Frequency, the "G" means Government, the corresponding number specifies the government approval, and the "U" means it is a universal specification.

Rubber Duck Antenna: An electrically short, omnidirectional antenna used on wireless devices such as GPS receivers. These antennas typically have a flexible plastic shield.

Semi-Rigid: A cable with rigid outer conductor that contains a flexible inner conductor and dielectric that form a coaxial transmission line.

Shielding: The metal sleeve surrounding the conductors in a wire circuit or cable to prevent interference or leakage.

Surface Mount Device: Abbreviated as SMD, it is an active or passive device designed to be soldered to the surface of a printed circuit board.

Temperature: Refers to the minimum and maximum temperatures that a given component can operate at while still meeting all specifications unless otherwise noted.

Termination: Also known as a Load, terminations are used at the end of a transmission line and are designed to absorb RF power with very little reflection, effectively terminating the line.

Torque: Recommended mating torque for industry standard connectors: SMA = 7 to 10 in-lbs; Type-N = 12 to 15 in-lbs; TNC = 12 to 15 in-lbs; 7/16 DIN = 220 to 300 in-lbs.

Twinax Cable: Similar to coax cable, but has two inner conductors instead of one. Typically used for very-short-range applications.

Twinax Connector: Two-Pole symmetrical connectors that maintain a balanced transmission line. Twinax connectors are ideal for applications using shielded twin-wire cables with different impedances in the range of 75 to 95 Ohms.

VSWR: Abbreviation for Voltage Standing Wave Ratio. VSWR is an efficiency measurement of how radio frequency is transmitted from a power source through a transmission line, into a termination (or load).

Waveguide: Used at microwave frequencies, waveguides are metallic transmission lines typically used to interconnect transmitters and receivers with antennas.

Yagi: A directional, shortwave radio antenna consisting of a horizontal conductor with several insulated dipoles parallel to and in the plane of the conductor.

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