

INTRODUCTION TO UNIVERSAL

Universal is pleased to present you with this special edition **Shortwave Catalog**. Recent world events have sharply increased interest in shortwave radio. This caused us to run out of our full line *2001 Communications* catalog early. In order to quickly meet demand, we have assembled this special catalog highlighting shortwave products. A full line catalog also covering amateur, CB and FRS products is planned for early next year. In the interim we urge you to visit our informative web site for these products. Our web site also features shortwave radios in more detail than we can provide in any print catalog. Most radios on our website feature full color photos, detailed specifications plus additional images showing special features, extra views of the back, side and even interiors of some models. We think you will enjoy our simple, content-oriented on-line catalog. We promise no banners, no Java, no animation, no pop-up windows, no flashing lights just great product information presented in an easy-to-navigate format.

FACTORY DIRECT DISTRIBUTOR

Universal Radio is a direct authorized distributor for all the major communications lines (Kenwood, Grundig, Sony, Sangean, Alinco, TEN-TEC, Yaesu, Drake, Japan Radio Company, ICOM, etc.). Since we are directly affiliated with all these fine companies, we can give you objective advice on all brands of equipment. We do not have to "push" any particular manufacturer.

ESTABLISHED 60 YEARS

Universal has been serving the amateur and listening community since 1942. You can be assured that we will be here in the future for support and service.

SHOWROOM DISPLAY



Universal is one of only a few stores in the country with a fully stocked showroom. Our 10,000 square foot facility is open six days a week and features an exceptional selection of communications equipment for the ham and SWL. Stop in and listen to our excellent selection of portable, wideband and communications receivers. If you travel through Central Ohio, please do stop in. We are only 20 minutes from downtown Columbus or the airport.

Universal Radio
6830 Americana Pkwy.
Reynoldsburg, Ohio 43068

LOW PRICES

You will find our prices very competitive and we do not add a surcharge to your order if you are using a credit card. Since we do buy direct from the manufacturers, we can offer you very favorable prices across the line. Rarely will you find an authorized dealer that can beat our discounted prices. Plus Universal is an authorized dealer for most major lines and offers knowledgeable help before and after the sale.

FULL INFORMATION

We at Universal think an informed customer is a satisfied customer. We want to provide you with all the information you need to make your next communications purchase. This catalog is a first step towards this goal, but we go further. We have specification sheets and brochures on most large items and will send them to you (usually for a self-addressed stamped envelope). We even offer service and owner's manuals for your review. Note: Owner's manuals are included with each radio we sell. These references, along with our objective advice, will ensure your satisfaction.

INFORMATION PAMPHLETS

Universal is pleased to offer a special series of short informational pamphlets all available at no charge - send a self-addressed stamped envelope (SASE) for titles desired.

- *Antenna Safety Advisory*
- *Interested in Shortwave Radio?*
- *Interested in Amateur Radio?*
- *Installing RF Connectors*
- *Introduction to ACARS*
- *Listening to Radioteletype*
- *Receiving FAX on Your Shortwave Radio*

USED EQUIPMENT

Universal offers a fine selection of used equipment for the communications enthusiast. Every piece of used equipment that we take in is thoroughly tested before being released for re-sale. All our used equipment carries a sixty day parts and labor limited warranty (unless specifically stated otherwise). Whether you are a new hobbyist on a budget, or an advanced DXer looking for a "stand-by" set; check our inventory of used gear! We publish a complete list of used equipment every month! To get your copy send a self-addressed stamped envelope. Our used equipment list is also posted on our website at:

www.universal-radio.com

TRADE-INS

Yes, we do take trade-ins! If you would like to trade your present gear in for a new unit or even another piece of used gear, let us know. Please write or e-mail to us indicating what you wish to trade-in. Indicate the condition of the equipment and whether you have the box, manual, etc. We also buy clean used equipment. We will reply with our offer.

LAY-AWAY

Universal offers a convenient layaway plan. To place any new item in layaway for up to sixty days, a 33% deposit is required. 33% more is required at 30 days. The balance is required at 60 days (or sooner). The item will be shipped after full payment. There are no service or interest charges on layaway orders.

FOREIGN ORDERS

Universal is pleased to process overseas orders. We can prepare quotes or proforma invoices on request. To calculate UPS shipping for Canada, multiply the catalog amount by two. We can also ship postal to Canada. Our toll free order-line now serves all of Canada.

FULL SERVICE

Universal offers a selection of communications receivers second to none. We offer a wide range of accessories and modifications too. Upon request, we will inspect and test any radio prior to shipment at no extra charge. Our well equipped service center is **factory authorized** to handle your warranty service needs on most lines. We are interested in you whether you need an 89¢ plug or a \$4000.00 receiver.

CATALOG CONTENTS

Introduction to Universal Radio	1
Introduction to Shortwave	4
Portable Shortwave Receivers	5
Communications Receivers	11
Wideband Receivers	17
Scanners	22
Specialty Receivers	24
Headphones	25
Shortwave Antennas	26
Scanner Antennas	30
Preamps, Preselectors & Tuners	31
Audio and RF Filters	32
Splitters, Combiners & Couplers	33
Antenna Switches	34
Equipment Protection Devices	35
Cable, Wire & Coax	36
Miscellaneous	37
Parts	38
Clocks	40
Radioteletype & Facsimile Equipment	41
Books: Listening	42
Books: Radio History & Collecting	46
Books: Amateur Radio	50
Last Minute Items	51
Order Form	52



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COVER: QSL cards from the collection of F. Osterman

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Introduction

UNIVERSAL FOUNDER



Universal was founded in 1942 by F.R. "Gibby" Gibb W8IJ. Universal Service, as it was then called, was located on North Third Street in downtown Columbus, Ohio. Universal carried all the major lines of the time including Millen, Drake, Collins, Hammarlund, Hallicrafters, Johnson and National. Most of the brands have changed, and so has our location. But the same dedication to customer service and satisfaction that our company was founded upon fifty years ago, still remains. As one of the oldest retail radio stores in the country, we are grateful for the support provided to us by the radio community over these many years. We will continue to offer the finest in new and used communications equipment at competitive prices.

HOW TO REACH UNIVERSAL RADIO

-  **Mail:** Universal Radio Inc.
6830 Americana Parkway
Reynoldsburg, OH 43068-4113
-  **Phone:** 800 431-3939 Orders & Prices
614 866-4267 Technical Info.
-  **FAX:** 614 866-2339
-  **E-mail:** dx@universal-radio.com
-  **Web:** www.universal-radio.com

RECEIVING THIS CATALOG

Universal prints a new catalog every 8 to 12 months. Printing and postage costs have recently risen. It is not economically possible, or ecologically prudent to *automatically* mail every catalog to every customer. Anytime you would like a new catalog, please request one. You may request your free catalog by phone, mail, FAX or email. (If you place an order a catalog will be sent with your order if our records indicate you do not have the latest edition).



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Service of amateur and shortwave lines.
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Payables



Rick
Internet

Art
Sales

John
Sales

Wil
Sales

Michael
Receiving

Billy
Shipping

Eric
Shipping



Elizabeth
Office



Debbie
Shipping

UNIVERSAL OFFICE CATS



Yes, I do resemble my brother Higgins, but I am much better looking.
Harleigh



Just remember who really runs this place.
Henry



Thanks for warming this chair up for me.
Higgins



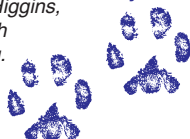
I am the new guy here.
Butterscotch



I never met a box I didn't like.
Hanna



I'll start the diet ... tomorrow.
Howard



Visit www.universal-radio.com for more neat Universal and customer cat photos!

UNIVERSAL RADIO COMPANY POLICIES

- **PAYMENT:** We accept Visa, Mastercard, Discover, money orders, cashiers checks and personal checks. Phone order customers please be ready to provide card number, expiration, issuing bank, billing and shipping address plus home & work phone. We request this information for your protection. Personal checks may require time to clear from unestablished customers and/or large purchases.
- **MINIMUM ORDER:** We have no minimum. Your order is important to us whether it is for \$5 or \$500.
- **SHIPPING:** We ship most in-stock items within 48 hours (UPS Next Day and Second Day Air orders are shipped within 24 hours). Our normal method of shipment is UPS Surface for equipment and UPS or Priority mail for books. We do not ship C.O.D. We ship Monday through Friday. You may request shipment by other means such as UPS Next Day Air, UPS Second Day Air or Air Freight for export orders. Equipment is packed very carefully and sent insured. Please provide us with a full shipping address. UPS cannot ship to a Post Office box. Flatrate shipping amounts are for the continental U.S.A. only. Canadian UPS shipping is approximately two times the U.S.A. amount. Foreign customers should include adequate shipping. We can provide shipping quotes.
- **PRICES:** Prices and specifications are subject to change! Prices shown are accurate at printing time. We are not responsible for typographical errors. We suggest you call to confirm prices on larger items. Please call toll free: 800 431-3939. For technical questions please call: 614 866-4267.
- **WARRANTY SERVICE:** Our service department is authorized to perform warranty work on Kenwood, Icom, Yaesu, JRC and other major lines. However, we do not perform warranty repairs for all brands. If you are not sure please call us. Copy of receipt must accompany returns for warranty repair.
- **ALL REPAIRS:** Please contact Universal for a service authorization number **prior** to shipping your service item. When sending in a product for service, please "double" box it carefully and ship it insured for your protection. Please include a note clearly describing the problem, how you wish the item returned and how you wish to pay for the service. Package your radio properly. Universal is not responsible for merchandise damaged in shipment. Our service rate is \$50 per hour (½ hr. minimum).
- **BACK ORDERS:** Universal carries an extensive inventory to minimize "back ordered" items. Because of manufacturer shortages, backorders do occasionally occur. You may cancel any backordered item at any time for any reason and receive a prompt and full refund. On credit card orders we will not bill your card until we actually ship.
- **RETURNS:** Returned items must be received by us in original, as shipped, condition including the original box, manuals, accessories, copy of sales receipt and warranty card. Note: Do not send in the warranty card until after 10 days, and you are certain that the product will suit your needs. Returns must be within **14 days** of purchase. Returned items are subject to a 15% restocking fee. Shipping is not refundable. Outdoor antennas, software and custom cables are not refundable.
- **FOREIGN ORDERS:** Foreign orders must be payable in U.S. dollars. You may use Visa, Mastercard, JCB, Discover card, postal money order or bank check drawn on a U.S. bank with transit numbers imprinted on the bottom of the check. Shipping amounts indicated in the catalog are for the U.S.A. only. Include adequate shipping to your location. We can provide shipping quotes. We do not ship large amateur antennas outside the United States. Some manufacturer's warranties are not valid outside the United States. Foreign book orders will be sent surface rate (slow!) unless air is specified.
- **DAMAGED SHIPMENTS:** If you receive a damaged parcel from UPS, note this with the driver and refuse the shipment. It will be returned to Universal and we will replace it for you at no additional cost.
- **COUPONS:** Many amateur manufacturers run coupon promotions. Universal will accept and can supply these discount coupons. Contact Universal to see what coupons are currently available.

TO PLACE AN ORDER:

Phone: 800 431-3939 **Orders & Prices**
614 866-4267 **Technical Info.**

Mail to:

Universal Radio
6830 Americana Pkwy.
Reynoldsburg, OH 43068-4113

FAX: 614 866-2339 **24 Hour FAX**
E-mail: dx@universal-radio.com

We accept phone orders Monday through Friday from 9 A.M. to 6 P.M. Eastern Saturday from 9 A.M. to 3 P.M. Eastern

SHOWROOM HOURS: Sun Mon Tue Wed Thr Fri Sat
Closed 10-5:30 10-5:30 10-5:30 10-7:00 10-5:30 10-3:00



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Reynoldsburg, Ohio 43068

Quality Equipment Since 1942
Page 3

FLAT RATE SHIPPING

Our simplified flat-rate shipping for U.S.A. customers (except AK, HI, PR) is:

Up to \$100.00	\$4.95
\$100.01 to \$500.00	\$9.95
\$500.01 to \$1500.00	\$14.95
\$1500.01 to \$3000.00	\$19.95

Flat-rate charges are based on the total order of the initial shipment. The order total is pre-coupon and pre-tax. The flat-rate charges include adequate insurance. Call for orders over \$3000.

USED LIST

To receive our monthly list of used equipment please send us one or more **self-addressed stamped envelopes**. Our used gear is checked in our service shop and carries a 60 day limited warranty. Our used list may also be viewed at:

www.universal-radio.com

PURCHASE

If you have equipment you are not using, why not turn it into cash? Universal will purchase good clean used equipment. Please write us, and let us know what you have to sell.

"DEMO" SALE

Universal will not sell returned or demonstrator units as new! From time to time we have such items and can usually offer them at up to 20% off our regular price. Please call to check availability.

TRADE-INS

For trade-in quotes, please call or write us listing the items you wish to trade including any optional accessories. Indicate condition and whether you still have the original box and manual. Universal will accept trade-ins towards: new, used, higher or lower value equipment. We accept trade-ins from within the U.S.A. only. Allow 7 days for evaluation of trade-in.

SHIPPING TO UNIVERSAL

Please contact Universal for an authorization number **prior** to shipping your service, purchase or trade-in item. When you ship your equipment it is important that it is packaged properly. Use the original box and packing material if possible. If you do not have the original box, wrap the equipment well with bubble wrap then place this in a box with adequate packing material. All equipment should then be placed in a **second box** with packing material to help ensure its safe arrival to us. Be sure to insure your package for its value. Universal Radio will not be responsible for equipment that is damaged in shipment.

DEALERS

Are you an electronics retailer or bookstore looking to add Universal books to your product line? Universal offers many books at dealer pricing for resale. If you would like more details please **write** to us on your letterhead and include your vendor tax number.

GIFT CERTIFICATES

Gift certificates are available in any amount. When ordering a gift certificate indicate *your* name and address **plus** the recipient's name & address:

Info.: 614 866-4267

Orders: 800 431-3939

www.universal-radio.com

Introduction

INTRODUCTION TO SHORTWAVE

Listening to shortwave, or *world band*, radio is an exciting and educational form of entertainment. With a moderate investment, anyone can listen to a variety of broadcasts from around the world.

WHAT IS SHORTWAVE RADIO?

The standard AM broadcast radio band extends from 540 to 1700 kHz. Shortwave radio starts where the standard AM band ends and extends to 30000 kHz or 30 MHz (1000 kHz = 1 MHz). Unlike medium wave signals, shortwave signals will reflect (refract) off the invisible layer above the earth called the ionosphere. While worldwide shortwave reception can occur during the day, best reception is usually during the evening.

WHAT CAN I HEAR?

The shortwave spectrum is vast. There are potentially thousands of stations that can be heard. The major types of stations are:

International Broadcast Stations

Every major country in the world, as well as many small countries, have **English** transmissions that can be heard in North America. These English broadcasts can be anywhere from 1/2 hour to several hours in length. Many countries beam their transmissions directly to N. America to enhance reception for Canadian and American listeners. Some of the easier English broadcasts to hear come from:

BBC London	Voice of Russia
RNE Madrid	Radio Sweden
Radio Tirana	HCJB Quito
Radio Bulgaria	Voice of America
Radio Japan	China Radio Intl.
Vatican Radio	Swiss Radio Intl.
Radio Canada	Radio Netherlands
Radio Prague	Channel Africa
RAI Rome	Radio Australia
DW Cologne	Radio Budapest
Radio Austria	Radio Havana
Radio Korea Intl.	Voice of Turkey

These and other stations design their programs for international audiences. There is an even greater number of regional and local shortwave stations that broadcast to their native populations. These lower powered stations typically transmit in the local language. A variety of interesting programming and music can be heard from these stations, especially from S.America, Africa and the Pacific.

Radio Amateur Stations (HAMS)

There are over 1,650,000 licensed amateur radio operators all over the world. Listening to hams can be interesting and a good way to learn more about ham radio. Hams are assigned to a different set of frequencies than the international broadcasters. If you want to listen to amateur stations, you will need a "general coverage" receiver. In order to transmit greater distances and efficiently use their allocated frequencies, hams transmit in a special voice mode called single sideband (SSB) and also Morse code. Again, it is important to select a radio capable of receiving these modes. Our staff will direct you to radios best suited for this.

Citizen Band (CB)

CB stations can be heard on most general coverage receivers. CB transmissions can be found between 26 and 28 MHz.

Utility Stations

If you subtract from the shortwave spectrum all the international broadcasters, HAM and CB stations, you will be left with a large number of stations loosely labeled "utility stations." These are commercial, government, military and research stations whose transmissions are not designed for general audiences. Some types of utility stations:

International Aeronautical

International commercial aircraft communicate with distant air centers using shortwave radio. It would not be surprising to hear an AirFrance jet talking to Santiago Control, or a JapanAir flight working Anchorage Control. We are fortunate that the international aeronautical language is English!

Maritime Stations

Shortwave radio remains a secondary link between ships at sea and land. There are hundreds of coastal stations and a nearly endless number of ships which can be monitored on a shortwave radio capable of SSB and Morse reception. Listening to ship-to-shore channels and distress frequencies can be particularly interesting.

Military Stations

While most "sensitive" military traffic is sent via satellites or encrypted, numerous military transmissions can be heard and identified. The following navies can easily be heard with a communications receiver: American, French, S. African, British, Argentine and New Zealand.

Time Stations

Many countries have stations which send out very precise time transmissions. Most include voice identifications and many can be heard in the USA.

Miscellaneous

There remain a number of stations that do not fall neatly into the previous categories. Illegal "bootleg" stations can be heard from time to time. Central America hosts several "clandestine" stations run by various rebel factions. They can be heard in the U.S. when they are not being jammed. There are a number of stations which transmit series of numbers without identification. While they are easy to hear, no one has conclusively determined their intent. Some Soviet and American satellites in low orbit can even be monitored.

WHAT KIND OF EQUIPMENT DO I NEED?

The answer depends on what you want to hear. If the international broadcast stations are your main interest, you may be satisfied with a modestly priced portable model covering these international broadcast bands. Portables are generally priced from \$50 to \$450. If you would like to listen to the various utility or amateur stations you will want to consider a radio with general coverage (full shortwave coverage from 1.7 to 30 MHz) and single sideband capability. These larger more advanced radios are called communications receivers and are priced from \$500 up. Used models are usually

in stock at Universal, and can afford a considerable savings. Contact us for a copy of our used list.

WHAT DO I USE FOR AN ANTENNA?

Good shortwave reception is possible with a very modest antenna. Portables include a whip antenna which will work quite well. Many portables and all communications receivers provide an external antenna jack (or terminal). Many listeners simply attach a 20 to 40 foot length of regular insulated wire to this jack and then stretch it across the room. This will yield surprisingly good results. However, if you can string the wire outdoors to a tree or pole, still better reception will result. Universal can provide the wire, insulators, *Coax-Seal* and lead-in cable for your antenna. Other more advanced or specialized antennas are also available.

Caution: Avoid overhead utility lines when stringing outdoor antennas. Contact with overhead lines can cause electrocution. Outdoor antennas should be grounded to help prevent lightning damage. If you are new to antenna construction please request a free copy of our "Antenna Safety Advisory".

HOW DO I KNOW WHERE TO TUNE?

One of the most exciting aspects of shortwave listening is simply tuning the dial and discovering stations from all ends of the earth. However, there are times when you will want to tune a particular country, perhaps because of an important event occurring there. Two excellent books for the shortwave listener are the *Passport to World Band Radio* and the *World Radio TV Handbook*. Both of these annual publications will guide you to the proper frequency. If you want to hear the exciting "utility" stations, the book *Guide to Utility Stations* is a "must." We also sell directories listing amateur stations and other specialized directories. There are a number of excellent monthly publications on shortwave listening.

WHAT IS U.T.C. or G.M.T. TIME?

In order to avoid the confusion of many time zones, hams and international broadcasters always refer to time at the zero meridian (which runs through Greenwich, England). This time zone is five hours ahead of Eastern Standard Time (4 hours ahead of Eastern Daylight Time). This 24 hour format is referred to as Coordinated Universal Time (UTC). For example 4:00 P.M. EST = 21:00 UTC.

WHAT IS THIS I HEAR ABOUT "QSLs"?

Most international broadcast stations like to hear from their listeners. If you send a "reception report" to a foreign broadcast station they will send you a confirmation of your reception in the form of a postcard called a "QSL". They also will usually send you a program guide and information about their country. A reception report should include the date and time you heard the station (in UTC), the frequency heard, reception quality and 15 to 30 minutes of program content to validate reception. Also tell them how you liked the program!

WHERE CAN I LEARN MORE?

Visit www.DXing.com on the worldwide web.