



**Manufacturing High Quality Radio Frequency Products**



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**MANUFACTURING HIGH QUALITY  
R.F. FILTERING & AMPLIFICATION EQUIPMENT**

Bill Lieske, Sr. was involved in radio communications for more than 60 years. At the age of 13 Bill, Sr. started what evolved into a lifelong passion by obtaining his amateur radio license. In WWII Bill, Sr. was chosen by the US Army to be involved in the burgeoning new technology of the time, radar. Upon being honorably discharged after WWII Bill's passion for all things radio led him into stints with public safety agencies, Motorola, RJ Communications and Sinclair, all leading, eventually, to his decision to venture on his own and EMR Corporation was founded in 1980.

As the founder and chief engineer of EMR Corporation, Bill's approach to RF systems and component designs was without parallel in the industry. Bill Sr.'s work helped set industry standards in the U.S. and international land mobile communications and antenna site management industries. His practical approach to ferrite and hybrid device design positioned EMR as an OEM supplier to both the Land Mobile Radio (LMR) as well as the TV and FM broadcast industries. Cavity resonant, filters, duplexers, combiners and multicouplers are natural companion products to ferrite and hybrid devices. So, it wasn't long before EMR began offering these additional products to not only OEM's but to RF Distributors and Dealers. Now under Bill Lieske, Jr.'s guidance, EMR continues to thrive operating under the same business and manufacturing principals that were instilled by Bill, Sr.



Founder William (Bill) Lieske, Sr.  
(1923 - 2008)

Today, EMR offers a complete line of antenna site and mobile filtering products covering the R.F. spectrum from 30 MHz to 2.8 GHz, and products capable of handling power levels up to 2 KW. Our line is extensive, we have many products to provide effective communications in today's challenging R.F. environments.

With EMR's specialized team member's, top-notch engineering, and state of the art manufacturing we can design and manufacture a wide variety of custom products as well as standard products. EMR excels in unique designs and welcomes all design inquiries. From our founding, our corporate philosophy has been, is, and will be to provide the highest quality products, at the greatest level of technical excellence, with the most practical consideration, at an economical price.

President  
Bill Lieske, Jr.



General Manager  
Steve Broschius



VP Engineer  
Douglas Ferrini



Production Manager  
Rod Defoor

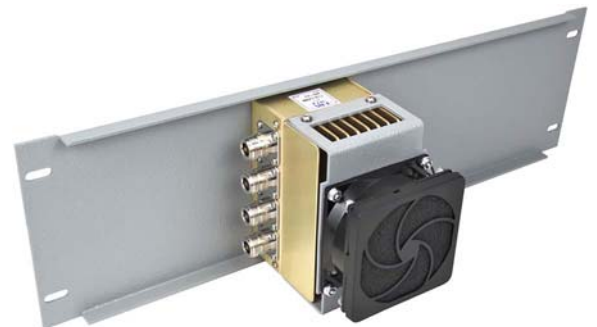




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## PRODUCT OVERVIEW & CUSTOM PRODUCTS

EMR standard product offering is comprised of a mature line of high quality, highly reliable: **isolators**, **filters** (1/4 wave, helical, combine, hogout, aperture coupled), receive LNA's (single stage, two stage or quadrature E-pHEMT), **multicouplers**, **tower top multicouplers** (amplifier bypass, b/u with auto switching), **combiners** (hybrid ferrite, filter ferrite, active and passive short haul/control station, repeater system), **duplexers** (1/4 wave, helical, mobile 50 and 100 watt versions), **bidirectional** and **unidirectional systems** (upgrades include higher gain, UPS w/Battery backup, monitor/alarm both local and remote), **site monitoring** and many other **component** level devices necessary to provide effective communications in today's challenging RF environments. Custom products are one of our specialties, contact us with your unique requirements and we will design a custom product for you.





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## IN-BUILDING SYSTEMS & ACCESSORIES

### BENEFITS & FEATURES OF EMR ENHANCEMENT SYSTEMS:

- Designed specifically to meet your enhancement needs.
- Amplifiers are unique to enhancement signal characteristics and F.C.C. type accepted.
- System gain set provisions and signal overload protection assures optimum performance.
- Filtering is custom designed and tuned to meet individual system requirements.
- NFPA and/or IFC Compliant
- Optional 24/7 System Monitoring
- Ultra reliable - Field tested designs utilizing the highest quality components.
- Five year warranty
- System design assistance provided. We will ask you to provide details of the structure(s) to be enhanced. Certain measurements and tests must often be made in order that signal distribution may be determined. This work can be accomplished by your technical staff or EMR Corp.



**In-Building Coverage  
Bi-Directional &  
Uni-Directional  
Systems**





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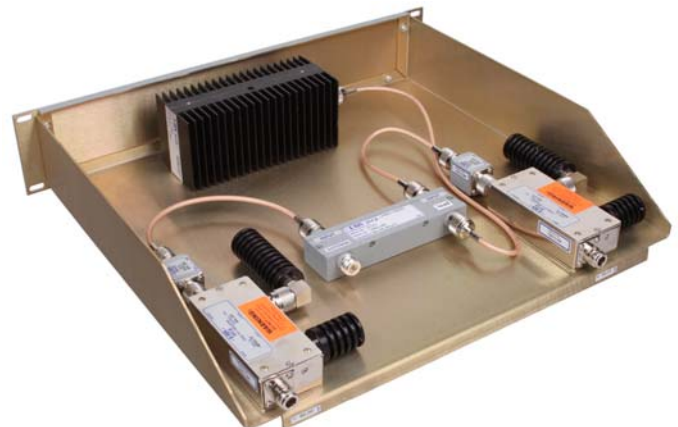
## TRANSMITTER COMBINERS - CAVITY FERRITE & HYBRID



**LOW LOSS  
TRANSMITTER  
COMBINERS  
66 - 960 MHz**



- Standard transmitter combiner input connectors are N Type. Other connector types are available by request.
- If combined output power exceeds 400 W, 7/16 DIN connectors are recommended.
- Large cavities are available for tighter channel spacing and higher transmit power.
- Hybrid Combiners are available from 2 to 16 channels
- Hybrid Combiners with more than 2 channels include all internal cabling





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## RX MULTICOUPLERS



- Our compact design 1 RU Receiver Multicoupler is ideal for limited space settings. Contact our factory for additional details on this product.



- Multicouplers are supplied complete, pretuned and ready for installation. Standard components include preselector, adjustable gain amplifier, receiver signal power divider(s).
- Multicouplers with up to 8 ports, are mounted on a 5.25" x 19" x 10" relay rack panel and chassis.
- Standard antenna input connectors are Type N Female.

### Standard Tower Top Multicoupler Components:

- Preselector
- Adjustable gain amplifier
- DC pick off with lightening protection
- Weather resistant aluminum NEMA enclosure
- N Female input/output connectors
- 2" saddle mast mounting brackets

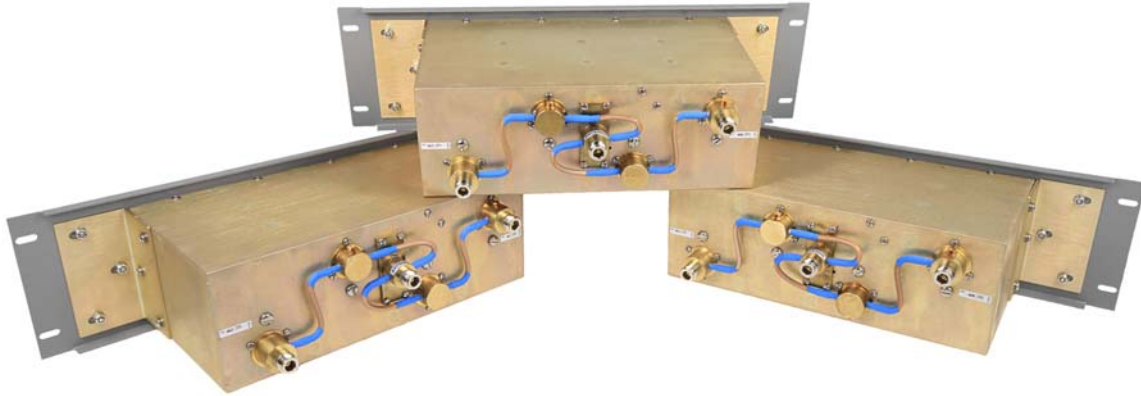


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## ANTENNA DUPLEXERS

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**Economical Base Station Duplexers & Specialized Duplexers**



**Full Line of Base Station Bandpass & Pass Reject Duplexers**



**Mobile Duplexers**



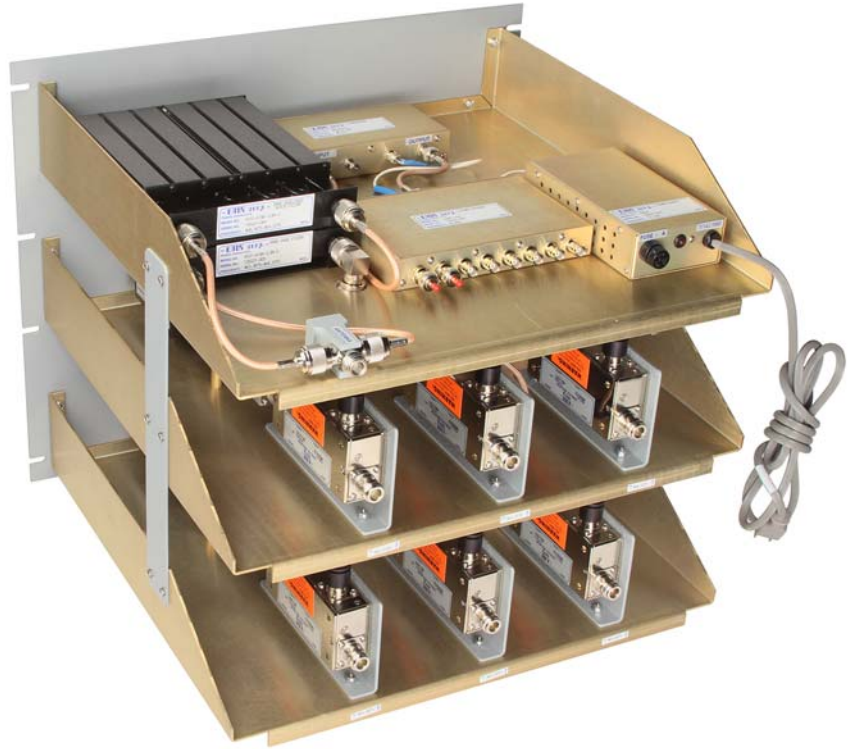


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## COMPACT INTEGRATED COMBINING SYSTEMS

### SYS SERIES PRODUCT FEATURES:

- Available for up to 100 w Power Applications: VHF, UHF, 700, 800 & 900 MHz.
- Up to 8 Channels
- Suited for On-site and local area: Industrial Applications for local area coverage.
- Compact size: Only 3 RU height (5.25" vertical Height for 25 W, 2, 3 and 4 CH version).
- Full duplex: Ideal for New digital RF Repeater Systems including iDAS, MOTOTRBO and NXDN

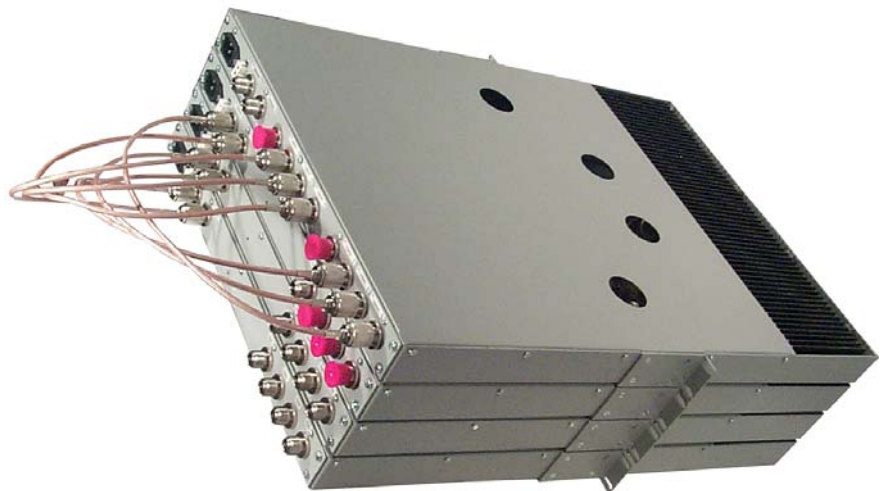


## HOMELAND SECURITY RF COMBINING SOLUTIONS

### SFR1 SERIES PRODUCT FEATURES:

#### Frequency Bands:

- 154 - 174 (20 MHz BW)
- 350 - 650 (20 MHz BW)
- 650 - 960 (63 MHz BW)
- Practical Compact Design
- Up to 8 Channels
- TX Insertion Loss: 8 to 16 dB
- Input Power: 50 Watts
- RX to RX Isolation: 60+ dB
- Connectors: Type N Female





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## POWER MONITORING + POWER SENSOR



### IPM1 Product Features:

- PTT (Push-to-Talk) Test
- PTT Sense
- COR (Carrier-on-Receiver) Sense
- System Log - View reading via web browser
- Alarm e-mail notifications
- Real time clock with NIST Sync
- Forward & reverse power graphs
- VSWR graphs
- Contact closure & LED alarm
- Rack mounting for multiple devices

### POWER SENSOR:

- Model: 2491/T-2(ADCRMS) 134 - 174 MHz
- Model: 2591/T-2(ADCRMS) 380 - 512 MHz
- Model: 2691/T-2(ADCRMS) 650 - 960 MHz
- Power Input: 1000 W (Max. Continuous)
- Operating BW: 50 MHz (Min.)
- Return Loss (iO Port): 20 dB (Min.)
- Insertion Loss: 0.15 dB (Max.)
- Directivity: 25 dB (Min.)
- Connectors: N-Female, RJ11
- Impedance: 50 ohm
- Overall Dimensions: 1.5" x 1.3" x 4.2"

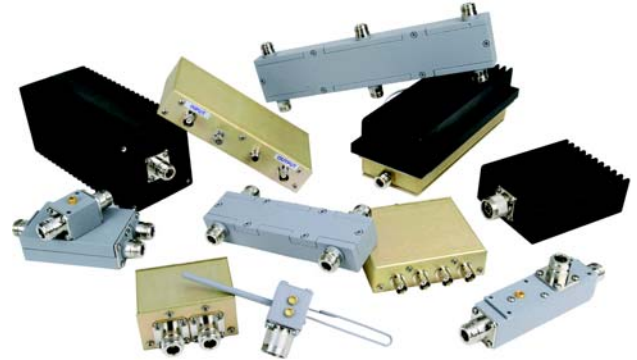




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## CAVITY RESONATORS & ACCESSORIES

High Power Cavity Resonators up to 3 KW



- Hybrid Couplers
- Harmonic Filters
- RX Amplifiers
- Impedance Matchers
- Load Terminations
- Power Attenuators
- Directional Couplers

Bandpass & Pass Reject Cavities from 66 MHz to 2.0 GHz





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## COMPLETE LINE OF FERRITE DEVICES FROM 66 MHz - 2.8 GHz

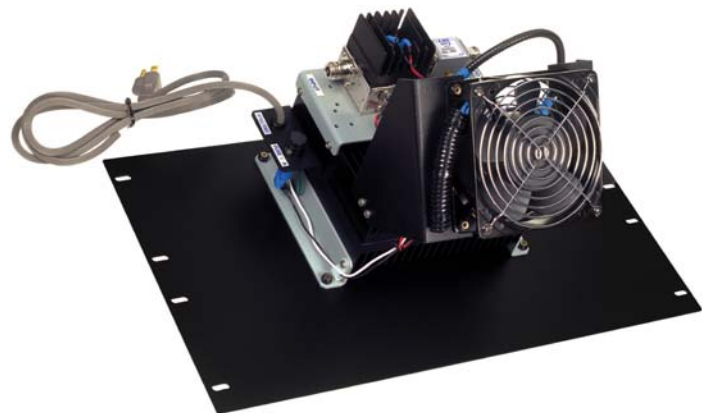
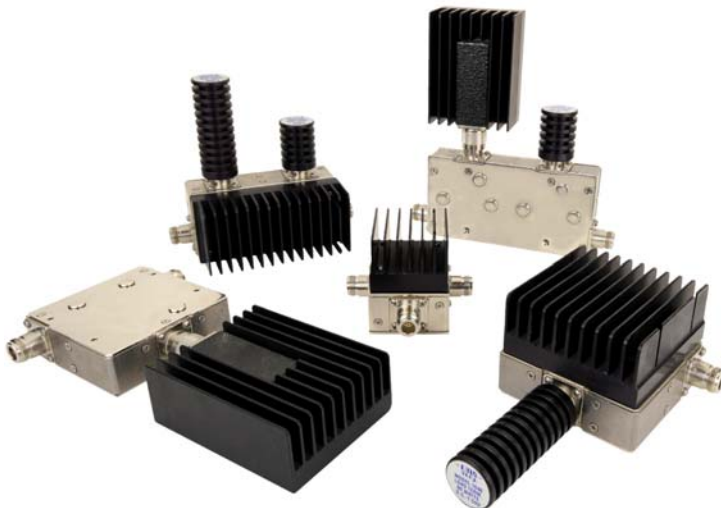


Low Power Isolators for Data Trunking & Broadcast Applications



Medium Power Isolators for LMR, Cellular & Trunking Applications

High Power Isolators for special product design specific to Broadcast, Aeronautical & Maritime applications. High Power Isolators & Intermodulation Panels for Paging Applications.





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- ✓ Five Year Warranty
- ✓ Satisfaction Guaranteed
- ✓ System Engineering
- ✓ Technical Excellence
- ✓ In-House Machine Shop



- ✓ Practical Designs
- ✓ Competitively Priced
- ✓ Top Quality Products
- ✓ Best Technical Support in the Industry



- ✓ Flexibility to Customer Requirements
- ✓ Exceptional Customer Service



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**WE'VE MOVED!**



**Our expansive 24,000 sq. ft. building houses EMR's core manufacturing, engineering, test lab, executive, sales/marketing and administrative departments.**



# ORDERING, TERMS & POLICIES

**ORDER PLACEMENT:** All prices shown are list price, FOB factory (Phoenix Arizona - USA) and are subject to change without prior notice. Prices include domestic packaging and are exclusive of federal, state or local excise or sales taxes, duty or brokerage charges on export shipments. Unless otherwise negotiated freight will be prepaid and added to the invoice.

**OPERATING FREQUENCIES:** Operating frequencies and power levels used in preparing EMR products are those provided by the customer. Errors in operating frequencies or power levels made by EMR will be corrected at no charge. Errors due to faulty information from the customer are subject to all shipping charges and any material and/or labor cost incurred by EMR Corporation to correct the order.

**TERMS OF SALE:** Terms of sales are C.O.D., or Cash with Order unless other terms have been established prior to shipment. Open account status will be extended upon reasonable assurance of credit worthiness. Past due accounts are subject to a late charge of up to 2.0% monthly, beginning 30 days after the date of issuance of our valid invoices.

**ORDER ACCEPTANCE:** An order is considered contractually valid when a purchase order is accepted by mail, telephone, facsimile or e-mail. Cancellations made less than 15 days prior to scheduled ship date may be subject to a cancellation charge.

**CLAIMS FOR SHIPPING LOSS OR DAMAGE:** All shipments will be made via the customers specified mode of transportation. If coded "best way" the shipment will be consigned to the most economical, reliable commercial carrier. Insurance will be taken unless the customer specifically takes responsibility for shipping loss or damage. Although claims for loss are the responsibility of the consignee, EMR will assist in all ways in making claims and tracking for loss or damage to any of its shipment.

**MODIFICATION AND DELAYS:** EMR reserves the right to make design changes or modifications to any of its products without specific prior notification provided that such modifications do not materially reduce the value or performance of the equipment concerned. EMR will not be responsible for delays in shipment occasioned by slow or interrupted deliveries to EMR of components, materials or processes necessary to the completion of any project as originally scheduled.

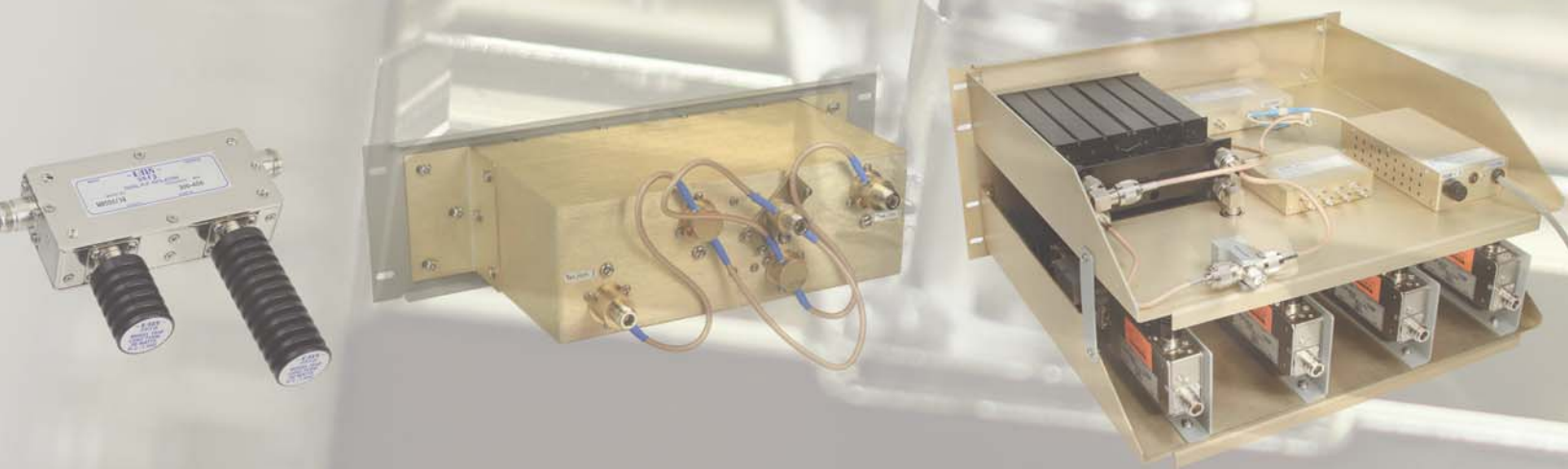
**PRODUCT RETURNS:** Merchandise returned without having first obtained written acknowledgment from EMR may be rejected. Unless otherwise authorized, credit or refund will not exceed 90% of originally invoiced amounts, and in no event shall include transportation costs. Return authorizations shall expire in 60 days unless otherwise specifically noted.

**MECHANICAL SEALS:** EMR provides mechanical seals on many of its products. These seals insure that the unit has not been modified or tampered with once it has left the factory. "Breaking" these seals without consent from an authorized EMR Corporation engineer or technician may void the warranty policy stated below.

**STANDARD WARRANTY POLICY:** EMR Corporation, hereinafter called EMR, warrants that all equipment of its manufacture shall be free from defects in design, material and workmanship for a period of 5 years from date of shipment unless otherwise covered by special warranty. If any such product, entirely or in part, fails to produce the performance as set forth in the brochure, quotations or literature provided by EMR, such product will be replaced or repaired at EMR's expense provided that the failure was not the result of alteration, misuse, tampering, misapplication, shipping damage or vandalism. If a product failure is found to be the fault of EMR the cost of transportation to the EMR factory and its return will be born by EMR. A reasonable charge for travel and subsistence costs will be invoiced when on-site repairs are necessary. Should EMR supply components not of its own manufacture, but specified by a customer, the warranty shall reflect the original manufacturers warranty, only.

It is understood that this statement constitutes EMR's entire and only warranty, there being no other warranties expressed or implied in law or in fact, including implied warranties of fitness. In no event shall EMR be liable for damages, either direct or consequential, that may be occasioned by any defect in material, workmanship or product support.

**DESTINATION CONTROL STATEMENT:** EMR Corporation strictly adheres to all laws and regulations of the United States Government regarding the export or re-export of our products outside the United States of America. EMR Corporation requires notification regarding the intention to export any products outside the United States of America. Information for the export or re-export requires country of ULTIMATE destination, purchasing individual(s), corporations, financial institution(s), shipping documentation, and shipping entities. This information must be disclosed and on file at EMR Corporation prior to any shipments in accordance with the Export Administration Regulations. Any action contrary to U.S. laws is strictly prohibited.



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