

# SPECTRUM II

INFRARED WIRELESS SOUND FIELD SYSTEM



**TeachLogic**  
FOR SOUND LEARNING

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# SPECTRUM II

Infrared Wireless Sound Field System



WITH THE ADVENT OF TEACHLOGIC'S ADVANCED DIODE TECHNOLOGY, infrared transmission has become the ultimate mode of secure wireless communication. Infrared transmission is inert to outside interference and it will not penetrate through walls, ceiling or floor.

**“WHAT'S SAID IN THE ROOM STAYS IN THE ROOM.”**

THE SPECTRUM II IS A COMPLETE SOUND FIELD SYSTEM for installation in a classroom or similar environment. The nucleus of the system is a power amplifier with two infrared receivers and four additional audio inputs for multimedia integration. With the high powered dome sensor centrally located, reliable signal reception is 100% assured. A convenient drop-in charger will automatically recharge and maintain the NiMH batteries in the body-pack and hand-held microphone.

## Spectrum II Features

- Four Power Amplifiers, 18 watts ea., with Individual Gain Controls
- Up to 8 Speaker Outputs
- Two Built-In Infrared Receivers for Wireless Microphones with Signal Presence LED Indicator
- Four Stereo Audio Inputs with Input Presence LED Indicator
- Front Panel Audio Output (3.5mm) with Gain Control for Personal FM System
- Three External Sensor Inputs
- Two Line Outputs for Recording or Feed to Other Media System
- Page Over-Ride with Page Pass Through.
- Interface with school paging system, mutes the inputs and passes the page through into the classroom.
- Input is speaker level (8Ω, 25V, 75V, 100V) selectable via a slide switch and gain control to adjust page volume.
- Nine Band Equalizer Used to Fine Tune for Optimum Intelligibility and Clarity
- Rack Mountable or Free Stance



## Ceiling Speakers SP-628

- Air Sealed Metal Can with White Grille
- 6" Cone Driver with a 1" Mylar Dome Tweeter
- Frequency Response: 80 - 15,000 Hz
- Power Handling: 30 watts Nominal, 60 Peak
- Impedance: 8Ω
- Three Quick-Mount Clamps
- Includes 100' Plenum Rated Cable and Tile Bridge

#3146048 Plenum Certificate





## Dual Drop-In Charger **BRC-202**

- Convenient drop-in insertion
- Charge pendant and handheld mics simultaneously
- Optimized charge rate for NiMH batteries
- Recycle function to extend battery life
- Auto protect circuit to prevent re-charging non-rechargeable batteries
- Auto full charge maintenance

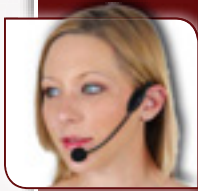
## Single Insertion-Dual Function Drop-In Charger **BRC-101**

- Drop-in either Pendant or Handheld
- Recharge slot for two "AA"
- Optimum NiMH charge rate
- LED function indicators
- Recycle function to extend battery life
- Auto protect circuit to prevent re-charging non-rechargeable batteries
- Auto full charge maintenance



## Pendant Transmitter with Optional Plug-In Mic. **IRT-89 with LM-300**

- Small and lightweight
- Powerful infrared output
- Dual Internal microphones
- Mic input jack- Center/Top
- Battery level indicator
- Power switch
- A/B channel switch
- Volume control
- Rechargeable batteries
- Convenient drop-in charger
- Adjustable lanyard with breakaway safety clasp



## Headband / Boom Microphone **HBM-835**

- Excellent Vocal Quality
- Very Efficient Low Vocal Volume
- Output Unaffected by Head Position
- Least Prone to Feedback



## Lapel Microphone **LM-835**

- Small Capsule Size
- Unidirectional Pick-Up
- Spring Clip
- Windscreen

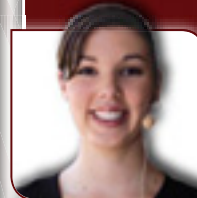


## Drop-In Charger for Handheld with Body-Back **IRH-30 and IRB-30**

- Convenient drop-in insertion
- Positive battery contact
- Optimum charge rate for NiMH battery
- Charging mode indicator - Red LED
- Full charge indicator - Green LED
- Recycle function - extend battery life
- Auto protect circuit to prevent recharging non-rechargeable batteries
- Auto full charge maintenance

## Handheld Microphone Transmitter **IRH-30**

- Transmitter with dynamic mic element
- Ten high powered emitting diodes
- Power on/off switch
- Rechargeable NiMH batteries
- Battery level indicator-LED



## Ultra Lite Mic **ULM-835**

- A miniature element on a very small boom gives this microphone several virtues-lightweight, high performance, comfort and low visibility. Available in Tan or Black.



## Wall Mount Speakers **SP-2000**

- Two-Way Speaker with a 5 1/4" Woofer and a Domed Tweeter in a Ported Enclosure
- Shielded Magnet to Prevent Video Interference
- Frequency Response: 80-18,000 Hz
- Power Handling: 40 watts Nominal, 80 Peak
- Impedance: 8Ω
- Reinforced ABS Enclosure with Metal Mesh Grille Includes 125' Plenum rated Cable and Mount Brackets

## Body-Pack Transmitter **IRB-30**

- Ten high powered emitting diodes
- 180° high level infrared transmission for reliable performance
- Volume control for mic
- Power on/off switch
- External input, 3.5mm

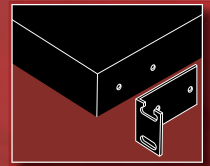


## All Spectrum II Systems Include:

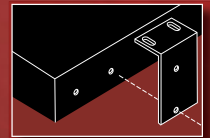
- Spectrum II Receiver / Mixer / Amplifier
- Ceiling Dome Sensor (30 diodes) with 50' Plenum Rated Cable
- Four Speakers – Either Ceiling Mount with Tile Bridge or Wall Mount with Bracket
- 100 Feet of Speaker Wire (Plenum Rated), 18 gauge

- IRS-7000\* System with Body-Pack Transmitter (IRB-30) including choice of microphone: Plug-in LM-300 (P), Collar CM-835 (C), Headband/Boom HBM-935 (H) or UltraLite ULM-835, Black or Tan (UB or UT additional cost), and Drop-in battery charger (BRC-30)
- IRS-7100 System with Pendant Transmitter (IRT-89) with plug-in unidirection microphone (LM-300), Lanyard, and Drop-in battery charger (BRC-101)
- IRS-7200 System with Two Pendant Transmitters (IRT-89) each with a unidirection plug-in microphone (LM-300) and a Dual Drop-in battery charger (BRC-202)
- IRS-7500\* System with a Handheld Transmitter / Microphone (IRH-30) and a Body-Pack Transmitter (IRB-30) with choice of microphone: Plug-in LM-300 (P), Collar CM-835 (C), Headband/Boom HBM-935 (H) or UltraLite ULM-835, Black or Tan (UB or UT additional cost) and Drop-in battery charger (BRC-30)
- IRS-7600 System with a Handheld Transmitter / Microphone (IRH-30) and Pendant Transmitter (IRT-89) with plug-in microphone (LM-300) and Dual Drop-in battery charger (BRC-202)

\* Add italicized letter in parenthesis to model number indicating choice of microphone. Example: IRS-7100C



**Rack Mount  
(RM-700)**



**Under Shelf Mount  
(SM-700)**

### Amplifier / Receiver (IMA-700)

Amplifier and Mixer	
Four Power Amplifiers:	18 watt (RMS) ea. 72 watt Total
Output Gain Control:	Each Amplifier
Output Connection:	Each Amp. has a Four Pin Latching Phoenix Connector
Output Impedance:	8Ω X 4 or 4Ω x 4
Frequency Response:	40 – 18KHz
S / N Ratio:	>65 dB
THD:	<1% @ 1 KHz
Dynamic Range:	>65 dB
Four Auxiliary Line Inputs:	250mVrms, 10 KΩ
Two Line Level Output:	-10dB
Equalizer	Nine Band ±12dB
Page Override/ Pass Through	
	Speaker Level Input 8Ω, 25v, 70v, or 100v Gain Control
Power Supply	19VDC / 4.75 A (90 w) CE, CSA, and UL Listed
Infrared Receiver Section	
Two IR Receivers:	Channel A – 2.08 MHz Channel B – 2.54 MHz
Receiver Sensitivity:	6μV for 60 dB S/N
Modulation:	FM Wide-Band
Nominal Deviation	±10 kHz
Maximum Deviation:	±25 kHz
Receiving Range:	2500 Ft <sup>2</sup> , 60 Ft. Line of Sight
External Sensor Inputs:	Three
Dimensions:	17" W x 1.75" H x 8" D
Weight:	4.6lbs. (2.3 Kg)

### General Specifications for IR Transmitters (IRT - 89), (IRB - 30), (IRH - 30)

Transmission Carrier:	Infrared
Transmission Frequencies:	2.08 MHz & 2.54 MHz
Channel Switchable A or B:	Field Switchable
Transmitting Diodes:	Ten
Modulation:	FM Wide-Band
Pilotone Frequency:	32.768 KHz
Peak Deviation	± 25KHz
Operating Range	2500 Ft <sup>2</sup> . 60 Ft. (One Sensor)
Power Switch (Slide)	On / Off
Battery Charge Level:	Green LED (Useable Charge) Red LED, (Needs Recharge)
Battery (Duracell)	Two "AA" NiMH, 2650 mAh
Battery Life:	Approx. 7 Hr./Charge
External Battery Contact	Drop-in Charger Connection

### Pendant IR Transmitter (IRT-89) with (LM-300)

Adjustable Lanyard with	Safety Breakaway Clasp
Transmission Angle:	180°
External Microphone Input:	Top / Center
Microphone Input:	3.5mm Jack, Lo-z
Waist Band Clip:	High Tension Wire
Dimensions:	5.25" H x 1.5" W x 1" D
Weight:	4.8 Oz. with Batteries

### Body-Pack Transmitter (IRB-30)

Adjustable Lanyard with	Safety Breakaway Clasp
Transmission Angle:	180°
User Controls;	Mic. Volume Power On / Off IR Power Output (Hi / Lo) CH. Select (A or B)
External Mic. Input:	Lo-z, 3.5mm, Phantom Pwr.
Waist Band Clip:	High Tension Wire
Dimensions:	4¾" H x 2¾" W x ¾" D
Weight:	4.8 oz. (with batteries)

### Handheld Transmitter/ Microphone (IRH-30)

Hand Ergonomics:	Tubular, Low Handling Noise
Power Switch:	On / Off Slide
Battery Charge Level:	Green LED (Useable Charge), Red LED (Needs Recharge)
Battery	Two "AA" NiMH, 2650 mAh
External Battery Contact:	Drop-in Charger Connection
Dimensions:	10" L x 1 ½" D
Weight:	11.4 oz. (with batteries)

### General Specifications for Drop-In Chargers

(BRC-30), (BRC-101), (BRC-202)	
Charging rate:	Optimized for NiMH Battery
Charging Current:	1700 mA ±10%
Auto Protect (Flashing LED's)	Defective Battery
Recycle Function:	Auto Discharge & Recharge
Charging Time:	2 - 4 Hrs.
Power Supply:	12VDC / 1.0 Amp. (12 watt)

### Drop-In Charger (BRC-30)

Charging Ports (Two)	Body-Pack and Handheld
Red LED:	Batteries being Charged
Intermittent Audible Alert:	Battery Fully Charged
Dimensions:	6½" W x 3¼" D x 1½" H
Weight:	12.2 oz.

### Single Insert Charger (BRC-101)

Charging Port (Single):	Pendant or Handheld
Flashing Red LED:	Batteries being Charged
Dimensions:	5" W x 3¾" D x 1½" H
Weight:	7.4 oz.

### Dual Drop-In Charger (BRC-202)

Charging Ports (Two)	Pendant or Handheld
Flashing Red LED:	Batteries being Charged
Dimensions:	7½" W x 3¾" D x 1½" H
Weight:	14.8 oz.

### Accessories and Replacements

RM-700	Rackmount Kit
SM-700	Under Shelf Mount Kit
BR-2AA	Two "AA" NiMH Batteries 2650 mAh, Duracell
ULM-835	UltraLite Microphone
HBM-935	Headband / Boom Mic.
LM-835	Lapel Microphone



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