

## VHF AND UHF REPEATERS

# Icom America Systems

**CY-F121SP** (VHF, with power supply)

**CY-F121SDP** (VHF, with duplexer & power supply)

**CY-F221SP** (UHF, with power supply)

**CY-F221SDP** (UHF, with duplexer & power supply)



## POWERFUL AND VALUE RICH

- **Compact size**
- **50 Watts (45 UHF)**
- **Affordable price**

### Features

- Built-in power supply: 13.8 VDC in or 110 VAC in or 220 VAC in
- Built-in battery back up and battery charging capabilities
- Built-in heavy duty A/C EMI filtering
- Built-in duplexer (optional)
- Built-in RF pre-selector (optional)
- 3 RU tall, built-in rack handles
- 19" Standard rack or cabinet mounting
- Built-in, automatic, heavy duty cooling fan (CPU controlled)
- Powder-coated steel chassis
- Built-in repeater controller
- Utilizes N style bulkhead connectors
- Built-in grounding stud
- Designed for max air cross-flow: 120 CFM for excellent ventilation
- Each unit is thoroughly tuned-tested and staged prior to shipment
- DB-25 rear connector for interfacing external equipment
- DC terminal strip for easy BBU connection



*Clean internal layout is easy to access and maintain. Repeater, duplexer, pre-selector and power supply, all in one box.*



*A large, continuously-running fan on the rear panel keeps the unit running cool. All connections are clear and well-marked.*

## ADDITIONAL FEATURES

### Built-in controller with controls:

- Transmit and receive audio path - level adjust
- PTT control of transmitter
- Transmitter hang ON time delay from 0 to 7.5 seconds
- Cooling fan runs continuously to keep the unit running cool

### Other features

- Power on password
- Accessory connector (ACC) connects to remote controllers
- A/C power cord included

## SPECIFICATIONS

| GENERAL                                  |   | TRANSMITTER                            |  | RECEIVER                                     |   |
|--|---|--|--|--|---|
| • Frequency coverage:                    | IC-F121S 136-174MHz<br>IC-F221S 400-430MHz<br>440-490MHz  | • RF Output power:                     | 25W/10W/2.5W [25W]<br>(High/Low2/Low1)<br>50W/25W/4.5W [45W]<br>50W/25W/5W [50W]   | • Receive system:                            | Double-conversion<br>superheterodyne system |
| • Number of channels:                    | Max. 8 channels<br>(4 channels x 2 banks)   | • Modulation system:                   | Variable reactance frequency<br>modulation   | • Intermediate freq.:                        | 1st: 46.35MHz, 2nd: 450kHz                  |
| • Channel spacing:                       | 12.5/25kHz (narrow/wide)  | • Max. freq. deviation:                | ±2.5/5.0kHz (narrow/wide)  | • Sensitivity:                               | 0.25µV at 12dB SINAD                        |
| • Antenna connector:                     | SO-293 (50Ω)  | • Frequency error:                     | IC-F121S ±5.0 ppm<br>IC-F221S ±2.5 ppm   | • Squelch sensitivity:                       | 0.25µV                                      |
| • Power supply voltage:                  | 13.2V DC nominal [25W]<br>(Negative ground)<br>13.6V DC nominal [50W]   | • Spurious emission:                   | 70dB typical   | • Adjacent channel<br>selectivity (typical): | 65/75dB (narrow/wide)                       |
| • Current drain (approx.):               | TX [25W] 7.0A<br>[45W] [50W] 13.0A<br>Max audio 1.2A<br>Standby 0.3A  | • Adjacent channel power:              | 60/70dB (narrow/wide)  | • Spurious response:                         | 75dB  |
| • Operating temp. range:                 | -30°C to +60°C;<br>(-22°F to +140°F)  | • Audio freq. response:                | +2 dB to -8 dB of 6 dB/octave<br>range from: 300Hz to<br>2550/3000Hz (narrow/wide) | • Intermodulation (typ.):                    | 74dB  |
| • Dimensions (Projections not included): | [25W] 480(W) x 133(H) x 364(D)mm;<br>18.90"(W) x 5.24"(H) x 14.33"(D)<br>[45W][50W] 480(W) x 133(H) x 364(D)mm;<br>18.90"(W) x 5.24"(H) x 14.33"(D) | • Audio harmonic dist.:                | 3% typ. at 1kHz, 40% deviation   | • Hum and Noise (typ.):                      | 40/45dB (narrow/wide)                       |
| • Weight:                                | 8.6 kg; 18 lb. [25W]<br>8.6 kg; 18 lb. [45W][50W]   | • FM hum and noise:                    | 40 dB (narrow)<br>46 dB (wide)   | • Audio output power:                        | 4W typ. at 10% distortion with<br>a 4Ω load |
|  |   | • Limiting character of<br>modulation: | 70-100% of max deviation   | • Ext. SP connector:                         | 2-conductor 3.5 (d) mm<br>(1/8")/4Ω         |
|  |   | • Microphone connector:                | 8-pin modular (600Ω)   |  |   |

All specifications subject to change without notice or obligation.

## OPTIONS



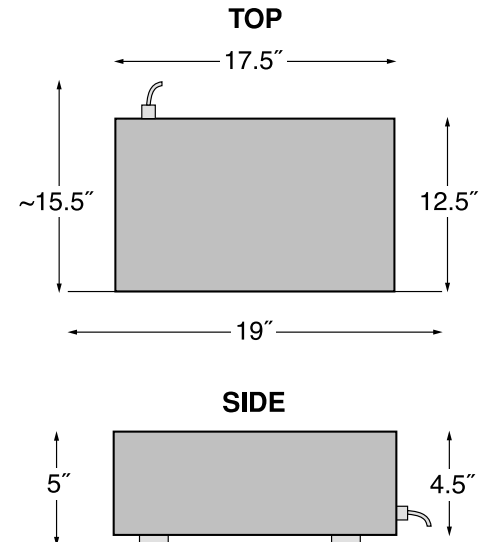
*Built-in duplexer (left)  
Built-in RF pre-selector (right)*



**HM-100TN**  
DTMF Microphone



**SM-25**  
Desktop Microphone  
*Convenient for dispatching,  
equipped with monitor switch*



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All specifications are subject to change without notice. Optional duplexer and preselector specifications not listed.  
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