

SAFE-1020/SAFE-1015

Public Safety Fiber DAS Head End and Remote Unit(s)



Streamlined communication for multi-band applications.

- Supports multiple frequency bands & combinations in a single cabinet (UHF, VHF, FirstNet, 700, 800 and/or 900).
- Simplex radio coverage available.
- Plug-in channel card design & advanced filtering technology deliver strong, clear signal performance.
- Easily processes interlaced frequencies & simultaneous weak-strong signals.
- Field upgradeable; expansion modules available.



Power / Mechanical

| | |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Power Supply | 9 to 12 VDC, DC provided by battery backup unit (120 VAC optional) |
| Power Consumption | 80 watts maximum peak 40 watts average |
| Output Power Per Band* | 700/800 MHz: 30 dBm +/- 2 dB UHF: 28 dBm +/- 2 dB VHF: 27 dBm +/- 2 dB |
| Channel Card Input Frequency Range | VHF card: 150 - 174 MHz UHF card: 380 - 512 MHz 700/800/900 card: 763 - 941 MHz |
| Card Capacity (each card covers a band or sub band) | Small enclosure: 10 cards (max) Large enclosure: 20 cards (max) |
| Certifications | UL 2524 FCC ID: 2AKSM-SAFE2 |
| Associated Products | Battery backup unit: SAFE-BBU-1000 Battery backup unit: SAFE-BBU-2000 Remote alarm annunciator: SAFE-AN-1002 |
| Remote Unit Capacity | Unlimited (with expansion modules at head-end) |
| Optical Loss Budget | 0 to 10 dB |

Additional Operating Features

| | |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Class A and Class B Filter Latency | 12.5 kHz: 60 μ s 25 kHz: 35 μ s 50 kHz: 25 μ s 75 kHz: 15 μ s 200 kHz: 10 μ s 500 kHz: 8 μ s |
| Digital Filters** | 17 filter pairs to 34 filter pairs |
| RF Input RF Output* | -10 dBm (max, no damage) 0.5 to 3 watts |
| Noise Figure* | 6 to 8 dB (typical) |
| Gain Control Gain Range | 30 dB (+1dB steps) 50 to 90 dB (typical) |
| Operating Temp. | 14°F to 122°F (-10°C to 50°C) |
| Size & Weight (based on system design) | Small 1020: 15 x 12 x 6.7 inches - 25 lbs (typical) |
| | Large 1020: 19 x 18 x 6.7 inches - 40 lbs (typical) |
| | Small and large sizes available for both the SAFE-1020 and SAFE-1015 |
| Enclosure | NEMA 4 |
| Alarms | 6 NFPA alarms plus an oscillation alarm, an alarm to indicate a lost data connection to the remote annunciator, and a door alarm |

* RF output power, output power per band, noise figure and power consumption depends on configuration. Consult Customer Service for applications and quotations support.

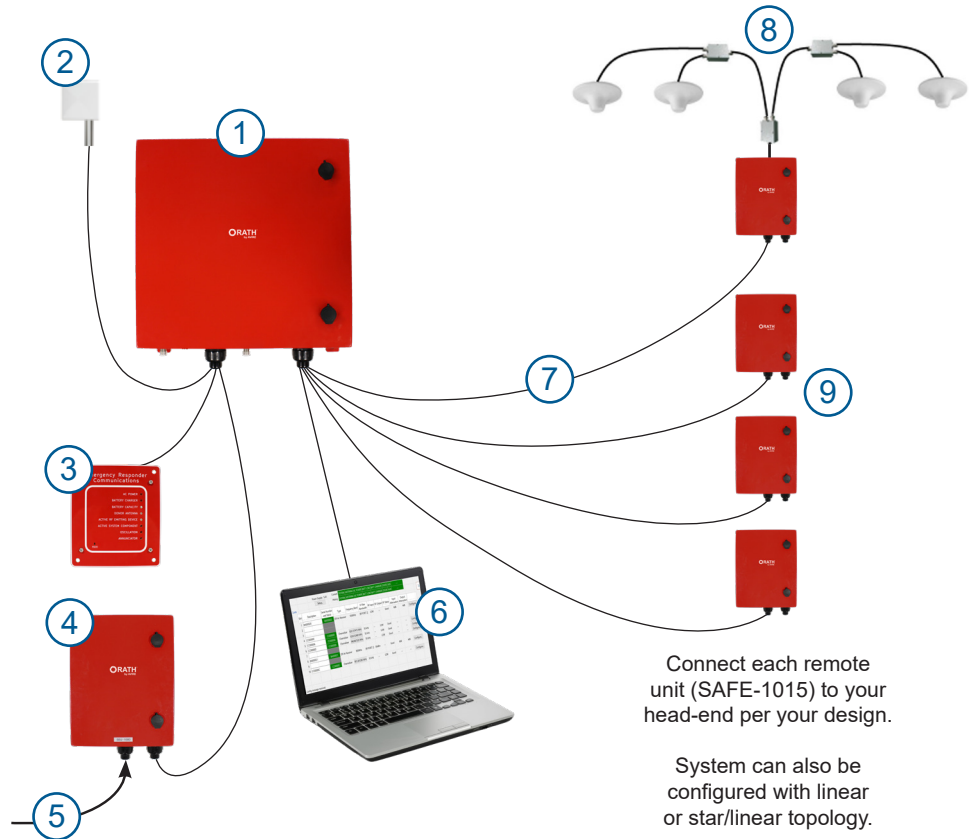
** Digital filters expandable in sets of 34 (17 pairs).

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System Diagram (Star Topology)

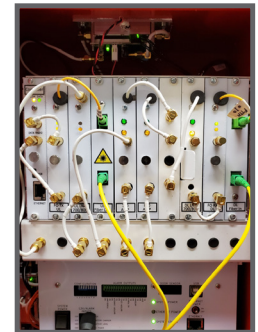
- ① SAFE-1020 head-end off-air channelizer
- ② Donor antenna
- ③ Remote annunciator
- ④ Power supply and battery backup (BBU)
- ⑤ 120VAC power input
- ⑥ Network management system (NMS)
- ⑦ One or two fiber strands
- ⑧ Service (in-building) antenna
- ⑨ SAFE-1015 remote unit



Head End Configuration Example

Plug and play feature permits multi-band and multi-technology applications, including Class A and/or Class B integrated into one system.

- Each channel card is a sub-band channel card with bandwidth between 50 kHz up to 16 MHz (depending on application requirements).
- System may require uplink and downlink channel cards (depending on system design).



WARNING. This is NOT a CONSUMER device. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device. You MUST register Class B signal boosters (as defined in 47 CFR 90.219) online at www.fcc.gov/signal-boosters/registration. Unauthorized use may result in significant forfeiture penalties, including penalties in excess of \$100,000 for each continuing violation.

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