Tel: 212.376.4548
office@marcointech.com
www.MarconiTech.com

MARCONI TECHNOLOGIES

Submittal MT-22 _ _

Public Safety Distributed Antenna System

BANDS: VHF, UHF. 700, 800, 900 MHz

The **Marconi Technologies BDA** system is a passive Distributed Antenna System utilizing a new architecture that provides a modular, upgradeable, redundant and power efficient Public Safety in-building coverage solution. This innovative approach utilizes dedicated parallel channel processing assuring the lowest spurious and highest signal performance for clear mission-critical coverage enhancement. The modular hot-swap card system permits single channel expansion on any frequency thanks to it's micro-power™ amp architecture.

The design is the most compact BDA available – fitting up to 5 bands into a 27" x 23" x 11.25" (inches) NEMA 4 unit. **It's a single unit which includes the entire system including the backup batteries.** All this with the industry's lowest power consumption of 50 watts* avg. at quiescent operation. This also makes the battery backup system the smallest available with 12 or 24 hours packed into < 0.5 ft 3. **Marconi Technology's** high-quality manufacturing system and superior applications support assures your success and the public's safety.

KEY FEATURES

- Class **A** and/or Class **B** BDA
- Supports All Five Public Safety and Federal Bands + FirstNet
- 1 Watt RF Output, compatible with all analog and digital signals
- Field Upgradeable – add new channels and new bands
- Size : 27" x 23" x 11.25" (H x W x D)
- Rated: NEMA-4
- Very Low Power Consumption
- Lowest Spurious due to advanced filtering design
- Unique front-end design, exceptional filtering
- FCC Certified
- UL Listed**
- USA designed and manufactured

*RF output power, noise figure and power consumption depends on configuration.
** UL listing certification available. Consult the sales department.

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SPECIFICATIONS

PARAMETER:	VALUE:
Output Power per Band: 700/800 MHz: UHF: VHF:	 30 dBm +/- 2 dB 28 dBm +/- 2 dB 27 dBm +/- 2 dB
RF Input, max, no damage	0dBm
Noise Figure, typ.	5 - 8 dB
Gain, typ. (consult applications)	50 - 80 dB
Spurious	FCC Compliant
Gain Control	30 dB
Operating Temerature	0 to +50°C
Power (DC via Battery Backup)	25 to 65W typ. *
NEMA-4: Size Type 1	27 x 23 x 11.25 inches, ~50lbs

BDA MODEL #:	CLASS / BAND:
MT-22A1	CLASS A / VHF
MT-22B1	CLASS B / VHF
MT-22A4	CLASS A / UHF
MT-22B4	CLASS B / UHF
MT-22A7	CLASS A / 700 Mhz
MT-22B7	CLASS B / 700 Mhz
MT-22A8	CLASS A / 800 Mhz
MT-22B8	CLASS B / 800 Mhz
MT-22A9	CLASS A / 900 Mhz
MT-22B9	CLASS B / 900 Mhz

The Marconi Technologies Public Safety Bi-Directional Amplifier (BDA) features:

- **Plug-in Modular card system:** Each low-cost card performs narrow-band signal processing on a single frequency. This allows wide flexibility in configuring the system with mixed frequency bands, for example 3 VHF, 8 UHF and five 800 MHz frequencies in one Class A channelized unit.
- **Excellent wall plug efficiency:** Due to the modular architecture, frequencies that are not keyed up can have their cards shut down to preserve power. This reduces heat within the NEMA enclosure, relaxes demand on battery backup reducing costs, and improves reliability for a longer life and fewer failures.
- **Advanced Super-heterodyne front end:** Significantly improves near-far performance compared to legacy technology, eases close-in TX and RX frequency management, and therefore interlaced frequencies are handled with ease – as close as <200kHz. Consult with Applications Engineering with your challenging frequency spectrum.

NFPA Alarm Outputs: Relay Outputs:

System Component Failure – Summary Alarm
Active Emitter Fail / Power AMP
Donor Antenna Fail
Battery Charge Fail
AC Power Loss
Low Battery Capacity
RF AMP OK/Fail

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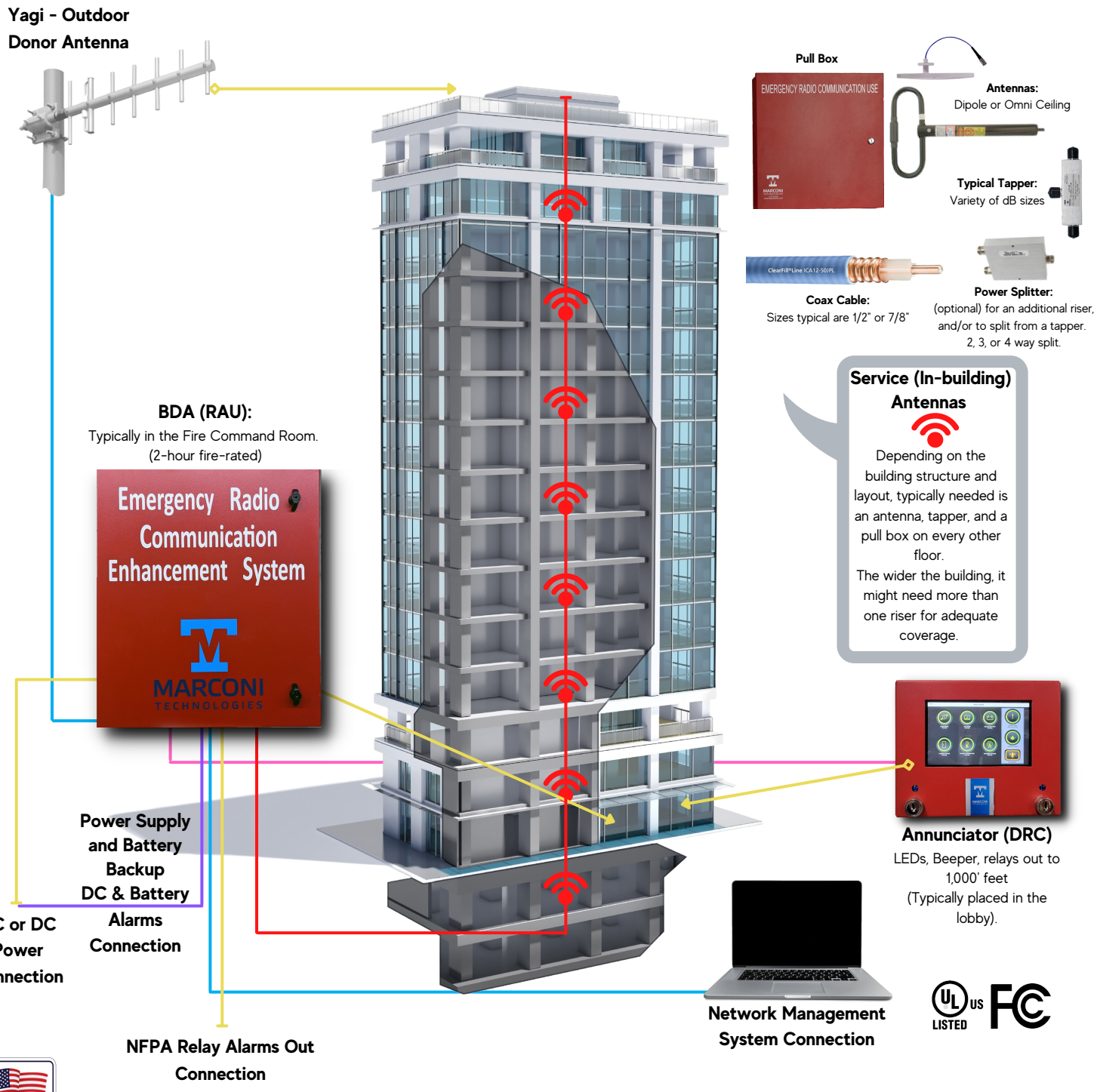
SYSTEM DIAGRAM AND PLACEMENT - MODEL # MT-22 _ _

BDA



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GENERAL BDA REQUIREMENTS

When ordering a BDA, you will need the following information/steps:

(some municipalities require more, some less - these are from the overall majority of their requirements):

- Find out who is the **AHJ** (Authority Has Jurisdiction).
  - Apply for a BDA **Permit** (*where applicable*).
  - Many AHJs have a 'checklist' on their website or by calling their office, of all their requirements and all the pertinent information needed.
- Find out who is the **FCC Licensee** holder for the Frequencies in your jurisdiction.
  - Obtain from them a **permit** (*where applicable*).
- Find out what are the required **radio frequency band(s)** in your jurisdiction.
- **Building Study with a Spectrum Analyzer:**
  - Obtain the building's blueprints. Map out a grid system over the property plans with a minimum of 20' x 20' squares to identify the building's critical areas and organize the floor plan in a way that provides for thorough, distributed reading locations. Take a minimum of one reading with a spectrum analyzer in each square of the grid layout and each critical area.
  - Minimum signal strength of **-95dbm** available in **90% of the area** of each floor (inbound).
  - **Critical areas** such as fire command centers, fire pump rooms, exit stairs and passageways, elevator lobbies and other areas deemed critical by the Authority Having Jurisdiction (AHJ) shall be provided with **99%** floor area radio coverage.

DIMENSIONS

Unit	Height	Width	Depth
BDA (RAU)	27"	23"	11.25"
Annunciator (DRC)	6.5"	9.5"	2.8"
Pull Box	16"	16"	4.5"

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