



## Huntington Beach Fire Department

2000 Main Street • Huntington Beach, CA 92648

(714) 536-5411 • Fax (714) 374-1551

### Guidelines for Installation of Public Safety/Emergency Responder Radio System

#### **Requirements Prior to Installing the 800 MHz BDA/DAS:**

1. Contractor shall submit two sets of Bi-directional Amplifier (BDA)/Digital Antenna System (DAS) design documentations and drawings to the Huntington Beach Fire Department (HBFD) for review and approval.
  - a. Drawings must be a minimum size Architectural D sheets or similar, with supporting manufacturer documentation on 8.5" x 11" pages. Site plan, floor plan(s) and wiring diagrams must be included.
  - b. Permit Application must be completed with a non-refundable deposit of \$125 for initial or new plan submittal. This amount will be deducted from the total charges of the final payment.
2. The HBFD will route plans to the Orange County Communications (OCCOMM), a division of the Orange County Sheriffs' Department, for review of compliance with FCC (Federal Communication Commission) and OCCOMM requirements.

NOTE: Applicant is responsible for payment of all fees associated with OCCOMM plan review. OCCOMM invoices to the HBFD will be forwarded to the applicant for direct payment to OCCOMM.
3. The HBFD will review the plans for compliance with the California Fire Code (CFC).
4. Once plans are approved by OCCOMM and HBFD, payment of HBFD fees must be made at the HBFD front counter and a permit will be issued for work to commence.

#### **BDA System Plan Design Requirements:**

1. Contractor is responsible for the 800MHz BDA system design and compliance with FCC and CFC Section 510 requirements.
2. BDA system shall be interconnected with the building Fire Alarm system and monitored for proper function of the signal booster and batteries. Monitoring signal shall be supervisory and display on the Fire Alarm Control Panel (FACP) as follows: "Emergency Responder Radio System trouble".
3. BDA system shall be fully rebandable.
4. BDA system shall be supported by the manufacturer for seven years after installation.
5. BDA system shall be equipped with Uninterruptible Power Supply (UPS) system.
6. BDA system shall be equipped with an auto-dialer.
7. Indoor antennas shall be 700/800 Mhz compliant.
8. Use of indoor tri-band antennas for BDA/DAS and cell phone coverage is acceptable.
9. BDA system design shall utilize 1/10 couplers rather than splitters.
10. Drawings shall detail the model numbers for all the proposed equipment (i.e. BDA system, Indoor antennas, Donor antenna, UPS, etc.)
11. Rack layout documentation must be provided.
12. Fiber optics layout, and interconnection (if applicable) must be depicted.
13. Provide floor plan with 20'x 20' signal grid layouts, for before and after, of the BDA system install for each floor.

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14. A plan showing the signal levels from the BDA system and indoor antennas is required. Drawing shall show indoor antenna layouts and signal levels, splitter/hybrid layouts, and donor antenna.

**BDA System Auto-dialer ID Assignment, and Scheduling a Final Inspection:**

1. OCCOMM will no longer conduct site inspections or system testing. Per OCCOMM requirements, the contractor shall obtain the services of a Third Party FCC Licensed Contractor (TPC) for site inspection and testing of the BDA system.
2. Contractor must contact the HBFD to schedule a BDA system final inspection, in conjunction with the TPC inspection/testing.
3. Contractor and TPC shall specify the building address, building owner contact, contractor contact and HBFD Permit Number.
4. Contractor shall have the approved BDA system plans on site for the TPC and the HBFD.
5. The final As-Built BDA system plan is required, and must be on 8.5"x11" pages, with copies provided to TPC, OCCOMM and the HBFD.
6. Contractor is responsible to contact the HBFD to obtain a BDA system Certification Form #161 (contact HBFD at 714-536-5411 for "pdf" copy).
7. Contractor shall have a copy of the BDA system Certification Form #161 (with the HBFD logo), on site for submittal with the As-Built plans to OCCOMM and the HBFD. Contractors' portion must be filled out entirely.

**TPC will perform the following during the Final Inspection/Testing:**

1. Verify the BDA system As-Built plan and documentation for thoroughness and accuracy.
2. Perform spot grid testing throughout the building, according to the approved / As-Built plans.
3. Verify that the BDA system auto dialer functions with the County paging system.
4. Perform isolation test to ensure the BDA system doesn't cause interference to the county cell sites.
5. At completion of testing, draft a report detailing BDA system function, compliance with FCC and the OCCOMM requirements, and any defects or areas without coverage. The report must be provided to OCCOMM and the HBFD for review.

**OCCOMM will perform the following after the Final Inspection/Testing:**

1. Review report provided by the TPC.
2. OCCOMM will assign a BDA system ID number and instructions to the contractor for programming the auto-dialer to dial into the county paging system.
3. Receive copy of final As-Built plans and sign off on Certification Form #161.

**HBFD will perform the following during and after Final Inspection/Testing:**

1. Verify BDA system compliance with CFC Section 510 and approved / As-Built plans.
2. Verify BDA system interconnection with the FACP.
3. Conduct spot testing throughout the building in conjunction with the TPC.
4. Receive copy of the As-Built plans.
5. Receive copy of OCCOMM signed Certification Form #161.
6. Once all documents are received and approved, sign off on Certification Form #161 and the HBFD jobcard.



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**CERTIFICATION FORM #161**  
**PUBLIC SAFETY/EMERGENCY RESPONDER RADIO SYSTEM COVERAGE**

**FIRE PERMIT NUMBER:** \_\_\_\_\_

**BUILDING ADDRESS:** \_\_\_\_\_

**CERTIFICATION TESTING DATE:** \_\_\_\_\_

FCC-Certified Technician to provide checkmark for one of the following:

**Amplification System Provided**

I certify that installation of the necessary amplification system and its associated components have been installed per plans, specifications and CFC Section 510. (NOTE: Amplification System requires OCCOMM clearance and HBFD approval. OCCOMM clearance section and HBFD approval section below must be completed.)

**Amplification System Not Required**

I certify that radio coverage testing has been conducted and radio coverage has been found to meet the minimum requirements of CFC Section 510 for both DAQ and Signal Strength. (NOTE: Testing report requires HBFD review and approval. HBFD approval section below must be completed.)

FCC-Certified Technician Name	Signature	Date
Technician Company Name	FCC License No.	Phone Number

***OCCOMM Clearance Use Only***

- Non-interference check and alarm programming verification.
- One copy of As-built plans received.

OCCOMM Representative Name	Signature	Date
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***HBFD Approval Use Only***

Inspector Name	Date	<input type="checkbox"/> Testing Report Rec'd	<input type="checkbox"/> As Built Rec'd (as needed)
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**Note:** Update Permit Record; place this Form, Testing Report and As-Builts in Occupancy File.

## OCCOMM Contractors List

Orange County Communications (OCCOMM) maintains a list, as shown below, of contractors that have performed Bi-Directional Amplification (BDA) system installations (700/800MHz public safety systems) in Orange County, California. It is strictly up to the building owner to identify and call a contractor and verify that the company does have FCC/GROL licensed technicians to perform the BDA testing, installation, and maintenance repairs. The contractor must be familiar with city, fire, building, and county BDA testing and documentation requirements. All documentation, corrections and paperwork must be completed for the building each year and provided to the authority having jurisdiction.

OCCOMM will no longer conduct site inspections or new system testing. Per OCCOMM requirements, the contractor shall obtain the services of a Third Party FCC Licensed Contractor (TPC) for site inspection and testing of the BDA system. The TPC will conduct the BDA isolation test, grid test, auto dialer test and provide a report to the OCCOMM for review.

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RedRock Security & Cabling (949) 900-3460  
Summer Svalberg (949) 463-7218 cell  
[summers@itredrock.com](mailto:summers@itredrock.com)  
<http://www.itredrock.com>



HCI Systems (949) 724-5000  
Michael Schmitt (949) 751-7844 cell  
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<http://hcisystems.net/>



Leaf Corp (949) 485-8793  
Dan Leaf [Dan.leaf@leafcc-llc.com](mailto:Dan.leaf@leafcc-llc.com)  
<http://leafcc-llc.com/>



BearCom (714) 984-4441  
Angie Doll [angie.doll@bearcom.com](mailto:angie.doll@bearcom.com)  
<http://www.bearcom.com>



ComSerCo Communications (951) 830-0926  
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<http://protectnetpartners.com/>



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<http://tepestdas.com/>



CTS Comm Technology Services (909) 393-8407 x4818  
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<http://cts1.com/>



Connectivity Wireless Solutions (951) 452-2880  
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Paul Niemann - Owner  
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