



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0198

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Jeron Electronic Systems, Inc.

Manufacturer's Technical Representative: Matt Chesnul

Mailing Address: 7501 N. Natchez Ave., Niles, IL 60714

Telephone: (773) 275-1900

Email: mchesnul@jeron.com

Product Information

Product Name: Electrical Control Panels on Life Safety/Critical Branch

Product Type: Nurse Call Stations

Product Model Number: Provider 680 in 6888 Main Equipment Cabinet; and Provider 790 in 7988 or 7989 Main Equipment Cabinet

General Description: Provider nurse call systems consist of equipment cabinets that contain control modules, network and power supply assemblies.

Mounting Description: Rigid, Wall Mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories

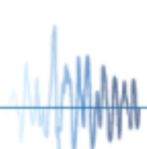
Contact Person: Kelly Laplace

Mailing Address: 1315 Greg Parkway #109, Sparks, NV 89431

Telephone: (775) 358-5085

Email: Kelly@shaketest.com

Title: Business Manager





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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

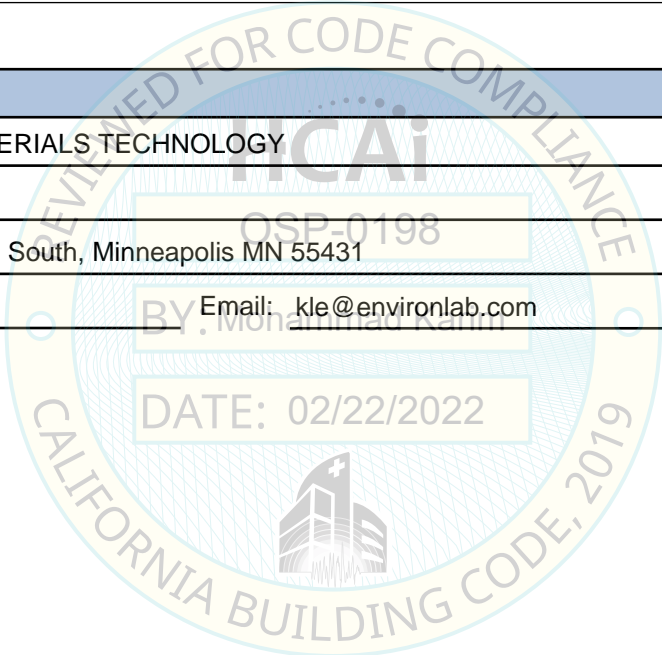
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: ELEMENT MATERIALS TECHNOLOGY
Contact Person: Kent Erickson
Mailing Address: 9725 Girard Ave South, Minneapolis MN 55431
Telephone: (952) 888-7795 Email: kle@environlab.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.87

SDS (Design spectral response acceleration at short period, g) = 2.49

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

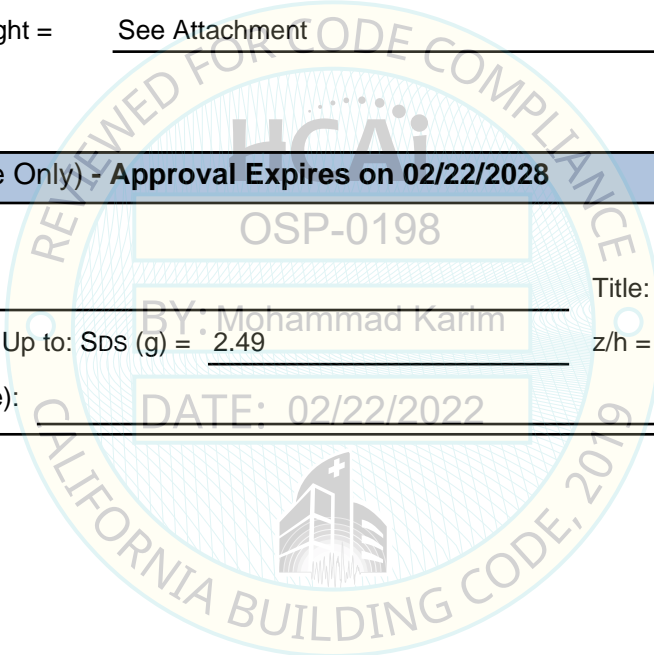
HCAI Approval (For Office Use Only) - Approval Expires on 02/22/2028

Date: 2/22/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.49 z/h = 1

Condition of Approval (if applicable): DATE: 02/22/2022

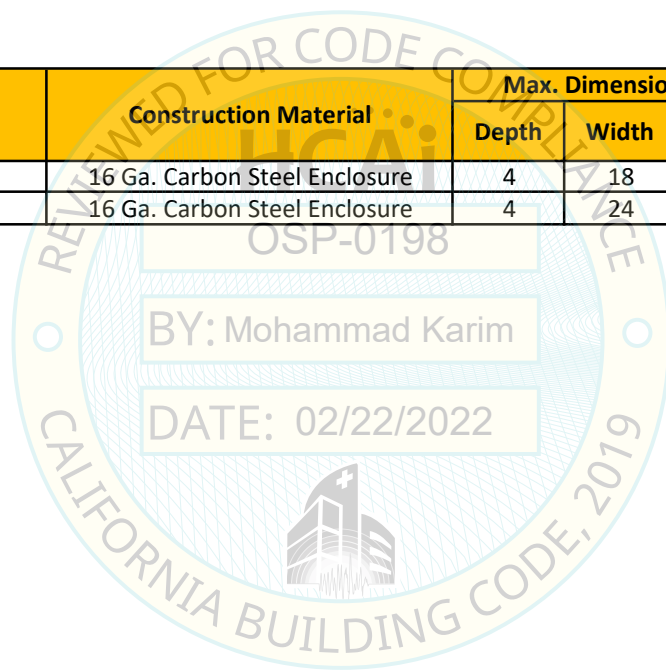


Special Seismic Certification
Table 1 - Certified Components



DCL Project Number: 50820-2201
Manufacturer: Jeron Electronic Systems, Inc.
Product Type: Nurse Call Systems
Product Line: Provider Nurse Call System Cabinets
Mounting Configuration: Rigid Wall Mount
Test Levels: $S_{DS} = 2.49g$, $z/h=1.0$

| Model Number | Product Line | Construction Material | Max. Dimensions (in) | | | Max. Weight (lb.) | Unit |
|--------------|--------------|-------------------------------|----------------------|-------|--------|-------------------|------|
| | | | Depth | Width | Height | | |
| 680 | Provider | 16 Ga. Carbon Steel Enclosure | 4 | 18 | 24 | 44 | 1 |
| 790 | Provider | 16 Ga. Carbon Steel Enclosure | 4 | 24 | 30 | 51 | 2 |



Special Seismic Certification Table 2 - Certified Subcomponents



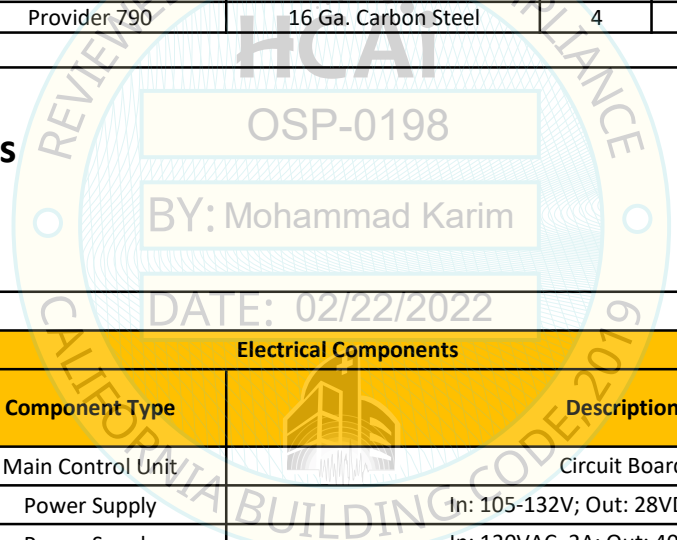
DCL Project Number: 50820-2201

Certified seismic level : $S_{D5} = 2.49g$, $z/h=1.0$

Enclosures

| Model Number | Manufacturer | Description | Material | Dimensions (in) | | | Weight (lb.) | Unit |
|--------------|--------------|--------------|---------------------|-----------------|-------|--------|--------------|--------------|
| | | | | Depth | Width | Height | | |
| 6888 | Jeron | Provider 680 | 16 Ga. Carbon Steel | 4 | 18 | 24 | 21 | 1 |
| 7988 | Jeron | Provider 790 | 16 Ga. Carbon Steel | 4 | 18 | 24 | 21 | Interpolated |
| 7989 | Jeron | Provider 790 | 16 Ga. Carbon Steel | 4 | 24 | 30 | 33 | 2 |

Special Seismic Certification Table 3 - Certified Subcomponents



DCL Project Number: 50820-2201

Certified seismic level : $S_{D5} = 2.49g$, $z/h=1.0$

Electrical Components

| Model Number | Manufacturer | Component Type | Description | Unit |
|--------------|--------------|-------------------|-----------------------------------|------|
| 6850 | Jeron | Main Control Unit | Circuit Board | 1 |
| 6851 | Jeron | Power Supply | In: 105-132V; Out: 28VDC @ 100VA | 1 |
| 7995 | Jeron | Power Supply | In: 120VAC, 2A; Out: 40VDC, 100VA | 2 |
| 7991 | Jeron | Ethernet Switch | 40V @ 3.9W, Aluminum Enclosure | 2 |
| 7993 | Jeron | Gateway | 40V @ 2.2W, Aluminum Enclosure | 2 |
| 13606 | Jeron | Logic Assembly | PCB, Subassembly of MCU 6850 | 1 |
| 13605 | Jeron | Audio Assembly | PCB, Subassembly of MCU 6850 | 1 |
| 13419 | Jeron | Master Assembly | PCB, Subassembly of MCU 6850 | 1 |
| 13418 | Jeron | Bus Assembly | PCB, Subassembly of MCU 6850 | 1 |

Special Seismic Certification
Table 4 - Tested Units

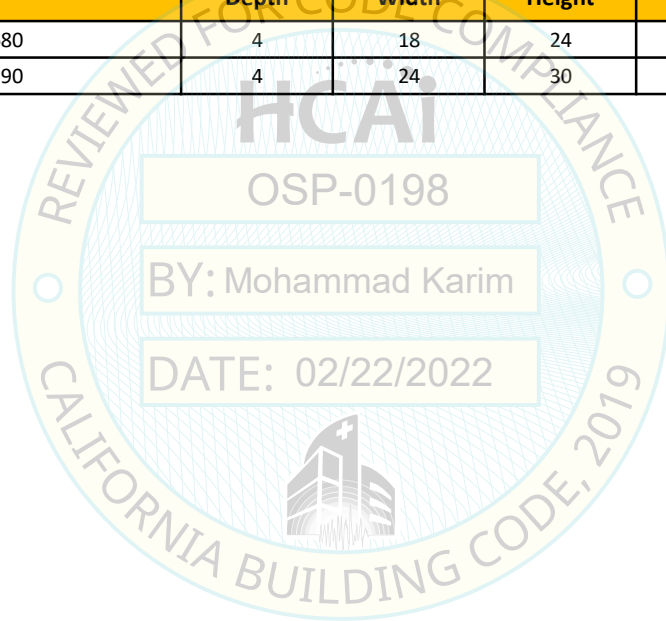


DCL Project Number: 50820-2201

Manufacturer: Jeron Electronic Systems, Inc.

Product Line: Provider Nurse Call System Cabinets

| Cabinet Type | Model Numbers | Dimensions (in) | | | Weight (lb.) | Mounting Configuration | Sds (g) z/h=1 | Unit |
|--------------------|---------------|-----------------|-------|--------|--------------|------------------------|---------------|------|
| | | Depth | Width | Height | | | | |
| Nurse Call Systems | Provider 680 | 4 | 18 | 24 | 44 | Rigid Wall Mount | 2.49 | 1 |
| Nurse Call Systems | Provider 790 | 4 | 24 | 30 | 51 | Rigid Wall Mount | 2.49 | 2 |



UUT-01 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 50820-2201

Manufacturer: Jeron Electronic Systems, Inc.

Product Line: Provider Nurse Call System Cabinets

Model Number: Provider 680

Product Construction Summary:
16Ga. Carbon Steel Enclosure

Options / Component Summary:
Enclosure - 6888, Main Control Unit - 6850, Power Supply Unit - 6851, Logic Assembly - 13606, Audio Assembly - 13605, Master Assembly - 13419, Bus Assembly - 13418

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

| Operating Weight (lb) | Dimensions (inches) | | | Lowest Natural Frequency (Hz) | | |
|-----------------------|---------------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 44 | 4.0 | 18.0 | 24.0 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | Sds (g) | z/h | Ip | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2019 | ICC-ES AC156 | 2.49 | 1.0 | 1.5 | 3.98 | 2.99 | 1.67 | 0.67 |

Unit Mounting Description:

Rigid wall mounted with (4) ungraded #10-32 pan head sheet metal screws.



Overall view of UUT-01

UUT-02

UNIT UNDER TEST (UUT)

Summary Sheet



DCL Project Number: 50820-2201

Manufacturer: Jeron Electronic Systems, Inc.

Product Line: Provider Nurse Call System Cabinets

Model Number: Provider 790

Product Construction Summary:
16Ga. Carbon Steel Enclosure

Options / Component Summary:
Enclosure - 7989, Ethernet Switch - 7991, Gateway - 7993, Power Supply Unit - 7995

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

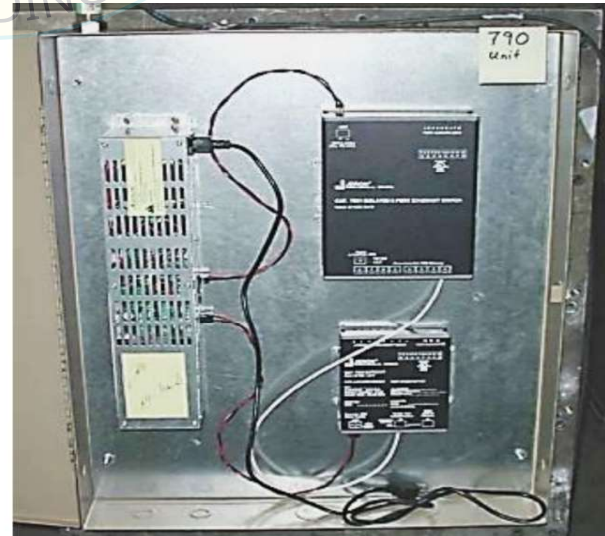
| Operating Weight (lb) | Dimensions (inches) | | | Lowest Natural Frequency (Hz) | | |
|-----------------------|---------------------|-------|--------|-------------------------------|-----------|----------|
| | Depth | Width | Height | Front-Back | Side-Side | Vertical |
| 51 | 4.0 | 24.0 | 30.0 | N/A | N/A | N/A |

Seismic Test Parameters

| Building Code | Test Criteria | Sds (g) | z/h | Ip | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) |
|---------------|---------------|---------|-----|-----|------------|------------|------------|------------|
| CBC 2019 | ICC-ES AC156 | 2.49 | 1.0 | 1.5 | 3.98 | 2.99 | 1.67 | 0.67 |

Unit Mounting Description:

Rigid wall mounted with (4) ungraded #10-32 pan head sheet metal screws.



Overall view of UUT-02