Honeywell is building a smarter, safer, and more sustainable world.

THAT’S THE POWER OF CONNECTED.
THAT’S THE POWER OF HONEYWELL.

Connected Aircraft | Connected Automobile | Connected Home | Connected Building
Connected Plant | Connected Supply Chain | Connected Worker
Welcome

Parts Standardization & Management Committee Team Members to Honeywell’s D&S Albuquerque Site

Main Conference Room: CR 311 & CR312

Side Conference Rooms: CR 302 and 323
The Security Team is the Albuquerque First Response Team

In an Emergency – Dial 828-5555
   • This is Security’s emergency response hot line
   • Know your room number, column location, or common name of area

DO NOT CALL 911 – DO NOT CALL HSE – CALL X5555
   • Security will contact outside emergency response agencies and assist them upon arrival
   • Security will contact appropriate HSE&F team members

See WIS8301061 – Section 711 Emergency Response
Evacuation Plans

Be Prepared for an Evacuation:
- Know where to find the nearest exit – Main door You originally entered
- Know an alternate exit route – Outside the west entrance
- Emergency Exit Doors are Painted Red

The Emergency Evacuation Signal begins with a Tone:
- The tone will be followed by a voice command over the public address system
- Stop work and calmly leave the building immediately
- Move away from the building and gather in one of the eight designated evacuation assembly areas
- Remain at your designated gathering area until notified you may return to the building or until the all-clear signal is heard. The all clear signal is a steady tone and/or voice announcement

See WIS8301061 – Section 711 Emergency Response
Albuquerque Site Overview

- Aerospace-Albuquerque (200116) Locations
  - **Albuquerque (ABQ)**
    - Production, Engineering & Repair
    - 521,974 sq. ft. facility on 64 acres
    - 822 employees & contractors
  - **Phoenix Service Center (PSC)**
    - Embedded Repair & Overhaul Shop
    - 24,140 sq. ft. at Deer Valley Site
    - 36 employees
  - **Morristown (MTO)**
    - Legacy Teterboro Engineering
    - Office space at Morristown campus
    - 52 employees

- Defense & Space (D&S) SBU
- AEOC/AESC Product Centers
- Military Integrated Avionics
- On-site DCMA, DACO and DCAA

Site Certifications
- CMMI Level III certified for Surface Applications
- ITAR Compliant
- OSHA’s Voluntary Protection Program (VPP) “STAR”
- HOS Bronze
Our Mission: One team committed to meeting the needs of the Warfighter... where every second counts

We execute using the Honeywell Operating System (HOS) to:

- Collaborate cross-functionally and with our customer to meet commitments;
- Design, manufacture, and deliver high-quality products and services;
- Foster open communication, active participation, and fact-based decision making; and
- Drive continuous process improvement to build and sustain performance.

Honeywell
Albuquerque Production Overview

- **Defense Electronic OEM Products**
  - Cockpit Displays
  - Display Processors
  - Mission Data Processors
  - Digital Map systems
  - Flight Controls
  - Flight Director Panel
  - Keyboards
  - T-Hawk UAV

- **Spare Components**
  - “Make” Spares
  - “Buy” Spares

- **Repair and Overhaul**
  - Embedded in-house repair for many products
  - R&O shared with Phx Product Support Center

---

**Displays**
- F-18F 8X10
- F-18 E/F 5x5 AMPD
- F-18C/D & AV-8B AMPCD
- V-22

**Mission Data Processors**
- F16 iPDG
- F16 ADCP II
- F-15E/K ADCP Singapore
- T-45 MDP

**Digital Map Systems**
- F-15E Replacement DMS
- F-18C/D/E & AV-8B DVMS
- F-16 Digital Embedded Digital Map
Albuquerque Production Overview

• 68 Diverse End Item Products
  - 48 Unique Test Platforms
  - All Make to order
  - Customer Demand varies from 1 per day to 1 per year
  - Average lead times of 12 months

• Factory Capabilities
  - End Item assembly and test
    ▪ Extensive Functional and Environmental Test Capabilities
  - Surface-Mount circuit card assembly
  - Plated Thru-Hole circuit card assembly
  - Manufacture of OE spares for legacy “sun-setted” products
  - LCD (Liquid Crystal Display) ruggedization for military applications
  - T-Hawk Unmanned Aerial Vehicle (UAV) build, flight ops, training

• In-house Customer Oversight
  - Defense Contracting Management Agency (DCMA)
  - Defense Contracting Audit Agency (DCAA)
  - Government Flight Representative (GFR) for T-Hawk Products
  - Boeing
  - Lockheed Martin
Aerospace Profile

Headquartered in Phoenix, Arizona, USA and Rolle, Switzerland

35,000 Employees
~80 Global manufacturing and service sites

9,463+ Active Patents and Applications

~ 13,000 Technologists and Engineers

Innovates and integrates thousands of products and services to advance and easily deliver safe, efficient, productive and comfortable experiences worldwide.

An airliner with Honeywell Wheels & Brakes lands somewhere in the world every 5 seconds.
Aerospace Products & Services Span Platforms

**Fighter/Attack/Trainer Aircraft**
- 30 PLATFORMS

**Bomber Aircraft**
- 3 PLATFORMS

**Mobility/Tanker Aircraft**
- 40+ PLATFORMS

**Special Mission/UAV Aircraft**
- 20+ PLATFORMS

**Human Space**
- 10+ PLATFORMS

**DoD, Civil, and Commercial Space**
- 30+ PLATFORMS

**Missiles and Munitions**
- 80+ PLATFORMS

**International**
- 20+ PLATFORMS

**Naval Platforms**
- 10+ PLATFORMS

**Military Helicopters**
- 20+ PLATFORMS

**Commercial & Business A/C**
- 110+ PLATFORMS

**Commercial Helicopters**
- 20+ PLATFORMS

**Surface/Soldier Vehicles**
- 15+ PLATFORMS

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**Business Overview**

**AEROSPACE**

- **ELECTRONIC SOLUTIONS**
- **ENGINES & POWER SYSTEMS**
- **MECHANICAL SYSTEMS & COMPONENTS**
- **SERVICES & CONNECTIVITY**
- **TRANSPORTATION SYSTEMS**

**STRUCTURE**
- 3 Customer facing organizations supported by 5 Businesses
  - Single point of contact for customer
- Integrated product roadmaps owned by Product Businesses
  - 17 Global Business Enterprises
- Shared support structure
  - Engineering resources shared across projects, businesses
  - Single supply chain drives sourcing and manufacturing efficiencies
  - Centralized back-office functions (finance, IT, HR)
  - Common systems support structure

**STRENGTHS**
- Global leader in the aviation industry
- Developing innovative safety products and solutions
- Driving modernization of global air traffic management
- Leading aircraft Connectivity revolution
- Committed to improving operational efficiencies
- Revolutionizing combat technology
- Serving all major automotive OEMs worldwide

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Electronic Solutions: Major Product Offering / Areas

• Bendix King
  - General Aviation avionics

• Cockpit Systems
  - Primus Epic Avionics and software upgrades
  - Legacy Primus 1000/2000/SPZ and AIMS/VIA avionics
  - Flight Management and Flight Control Systems

• Space Systems
  - Satellite and Space Products

• Navigation and Sensors
  - Inertial Measurement Units/Systems/Air Data

• Safety Systems
  - Radio, Radar, Safety products
  - Lighting portfolio
F-15 ADCP II Program Summary

Boeing

• Saudi Production
  - Currently Delivering 13/month
• Recent development work
  - USAF
  - Qatar
  - USAF EMD support
• Future Opportunities
  - USAF Production thru 2023
  - Other Boeing FMS potential

F-16 iPDG and DFLCC Production

Lockheed Martin

• F-16 Improved Programmable Display Generator (iPDG)

• F-16 Digital Flight Control Computer (DFLCC)
  - Recent retrofit work:
    ▪ Thunderbird
    ▪ Singapore
    ▪ Lockheed Martin
Sample of Albuquerque Programs & Customers

- AH-64 Apache (ARMY)
- B-52, B-1B and B-2
- C-5 USAF
- C-130J and P-3 Platforms (LM)
- C-17 (Boeing)
- CH-47 (RNLAF)
- DARPA
- DCMA
- F15 (Boeing)
- F18 (Navy)
- T45 (L-3)
- V22 (Boeing)

- International Customers

- A Varity of Depot Partnering Programs
## ALBUQUERQUE, MORRIS PLAINS, REDMOND and TORRANCE
### Component Engineers

<table>
<thead>
<tr>
<th>Name</th>
<th>Programs and Commodity Speciality</th>
<th>Phone</th>
</tr>
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<tbody>
<tr>
<td>CE Technical Manager for Albuquerque, with virtual team members in Morris Plains, Redmond and Torrance</td>
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<td></td>
</tr>
</tbody>
</table>
ABQ Programs: F18 AMPDs and AMC Kits, F15 ADCP (non-depot) & DMSR, and T-45 MDP  
ABQ Commodities: None, transferring Processors to Oracio Garcia  
Aerospace Parts Specialist "Team Leader":  
- Microprocessors (General Purpose Processors, Microcontrollers, Digital Signal Processors and Graphic Processing Units)  
GIDEP Representative, PCNs & CEARs, CCA Outsourcing Support, AMPL technical coordination  
Aerospace Corporate Passives Team member  
Programs: B-1B FIDL & AVMEC; F-15 Test Station, C-130 AMP/AFCP, B-2 CIDS, Blackhawk/Seahawk, FCC, Morristown CM Transitions  
Aerospace Parts Specialist "Team Leader":  
- Passives (Capacitors, EMI/RFI Suppression Devices, Resistors, Thermistors, & Varistors)  
- Magnetics (Inductors, Transformers, Cores)  | (505) 828-5687 |
| ABQ Programs: C-130J, C-130 RN2AF, C-130 BAF, C-17, B-2, C-27, Obsolescence Management Service (F15 ADP/ADCP I(USAF)/DMS Depot Partnership)  
ABQ BOM Analysis Guideline and ABQ Commodities: Magnetic, Analog/Linear, ASIC, Hybrids and Relays Commodities  
Aerospace Corporate Magnetic, Analog/Linear & Interface Team member | (505) 828-6068 |
| ABQ Programs: F15 ADCP II, I/RD and Counterfeit Parts Prevention  
ABQ Commodities: Microprocessors, Microcontrollers, Digital Signal Processors and Graphic Processing Units and backup for Semiconductors  
Aerospace Corporate Processors Team Member | (505) 828-6492 |
| Programs: ABQ V-22, CH-47 RNLAf, Misc Clearwater programs  
ABQ Commodity: Passives, Memories and FPGAs  
Back up for: F16 Legacy(out of production)  
Aerospace Corporate Passive Team member & Memory-FPGA Team member  
Programs: ABQ V-22, CH-47 RNLAf, Misc Clearwater programs  
ABQ Commodity: Passives, Memories and FPGAs  
Back up for: F16 Legacy(out of production)  
Aerospace Corporate Passive Team member & Memory-FPGA Team member | (505) 828-5445 |
| ABQ Programs: Supporting all programs with BOM Analysis, EBOM and requested activities  
Technical Coordinator: OMT focal, BOM Analysis & AMPL  
ABQ Commodities: Oscillator-Crystal and Connectors | (425) 885-8041 |
| Programs: ABQ B52 Connect, Third Party Design activities, NG HUMs, legacy HUMs and Poway-Olathe program support  
Aerospace Corporate Digital Logic and Interfaces Team Member  
ABQ Commodities: Diodes and Transistors | (310)-512-5796 |
| ABQ Programs: F16 IPDG, DLFCC & EDLFC, MAV-UV, CH-47 RNLAf, F-2, T-50, and F-16 Production (ECFPDG, MPDG, CCMFD, DFLCC, EDLCC), F-16 Legacy (out of production)  
Back up for: V22, B-1B AVMEC & FIDL, Test Equipment Part Drawings  
ABQ Commodities: Connectors and Mechanical [fasteners-misc] and backup for Oscillators-Crystals  
Aerospace Corporate Connector Team member | (505) 828-5735 |
| Depot Partnering Program Leader (Repair Overhaul/Depot Partnership Proposals)  
ABQ Programs: C5, C5 AIU, C5 VLA, C5 CPMMI, CH-47 RNLAf, C130 DMS Multi Year, C27J, AH64, ADCP II(Back up) and CPRT Core Team  
ABQ Commodity: ASICs | (505) 828-6492 |
Albuquerque Parts Management Plans

- Parts Management

  - *Most Albuquerque Programs have unique parts management plans (PMP)*

  - Depending on the time of the plan/program, recent plans, i.e. within the last 6-7 years, have incorporated the processes noted in the Honeywell Aerospace Parts Management Plan, EB53000249-102, typically noted as ECMP(electronics components management plan)

  - The program PMP processes, obsolescence items, Pb-Free requirements and SDRL items are tailored to the program specific needs.
Parts Management Plans

• EB53000249-102: Honeywell Aerospace Parts Management Plan

Within the -102 we address the following:

- Technical Requirements
  - Planning and Execution of EEE Project Parts Plan
  - Program EEE Parts Requirements
  - Aerospace Standard Parts
  - Part Selection and Standardization
  - New Part Requests
  - Part Assessment
  - Part Rating
  - Bill of Material Analysis and Scorecard
  - Risk Mitigation Log
  - APPROVED MANUFACTURER'S PARTS LIST (AMPL)

- Component Application
  - Planning and Execution of EEE Project Parts Plan
  - Program
Parts Management Plans

• EB53000249-102: Honeywell Aerospace Parts Management Plan

Within the -102 we address the following:

- Component Application, continued
  - Electromagnetic Compatibility
  - De-rating and Stress Analysis
  - Thermal Analysis
  - Mechanical Analysis
  - Testing, Testability and Maintainability
  - Avionics Radiation Environment

- Component Qualification
  - Component Manufacturer Quality Management
  - Component Manufacturer Process Management Approval
  - Demonstration of Component Qualification
  - Qualification of a Component from a Supplier that is Not Qualified
  - Qualification by Similarity
Parts Management Plans

• EB53000249-102: Honeywell Aerospace Parts Management Plan

Within the -102 we address the following:

- Continuous Component Quality Assurance
  - General Quality Assurance Requirements
  - On-going Component Quality Assurance
  - In-house Continuous Monitoring
- Monitoring of Product Change Notices, Errata, End of life Notices and Internal Alerts
- Component Dependability
- Component Obsolescence
  - Proactive Measures for Component Obsolescence
  - Component Obsolescence Awareness
  - Reaction to Component Obsolescence
  - Parts Obsolescence and Pb-Free lead finishes
- Component Compatibility with the Equipment Manufacturing Process
- Component Data
- Configuration Management
- Honeywell Part numbers and Documentation
Parts Management Plans

- EB53000249-102: Honeywell Aerospace Parts Management Plan

Within the -102 we address the following:

- Equipment Change Documentation
- Customer Notifications and Approvals

The parts management plan encompasses more than just Component Engineering, it includes Reliability, Quality, Design/Product Eng., Materials Eng., Mechanical Eng., Radiation, EMI/EMC, Manufacturing, Subcontractors and Procurement.
Aero Parts Selection Website – Hub for Part Selection
**Aero Standard Parts – Roadmaps, PSLs & PPLs**

Component Technologies
(Technology Roadmaps, PSLs & PPLs)

**Roadmap Output: Targeted technologies, suppliers and product families**
(Goal: Achieve high alignment with Honeywell product roadmaps, supplier roadmaps and CM suppliers)

**DRAM Technology Recommended for New Hardware Design**

**Legend:**
- Technology Reuse in new Hardware Design:
  - Technology recommended for new designs - Preferred
  - Consider transitioning newer technology - Acceptable
  - Technology not recommended for new designs - Restricted or Do Not Use

**Part Assessment**
1. Manufacturer's rating
2. Obsolescence (YTEOL)
3. Availability
4. PCN/Alert Review
5. Number of Sources
6. Temperature Range
7. Technology Review
8. Construction Review
9. Qualification review
10. Radiation Sensitivity

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**Manufacturer PN**
- MT4U28M8JP-15E1T-D
- MT4U64M16JT-15E1T-G
- MT4U256M8HX-15E1T-D
- MT4U28M8JP-15E1T-D
- MT4U64M16JT-15E1T-G
- MT4U256M8HX-15E1T-D

**Manufacturer Name**
- MICRON TECHNOLOGY INC
- MICRON TECHNOLOGY INC
- MICRON TECHNOLOGY INC

**Aero Part Rating**
- 3-Restricted
- 3-Restricted
- 3-Restricted

---

**Honeywell PN**
- M53502023-2
- M53502023-1
- M53501160-3
- M53502023-2
- M53502023-1
- M53501160-3

**Part Description**
- MCKT, MEMORY, SDRAM, DDR3, 1G, 128M X 8, 1.5V, DIE REVISION D, 1.5NS AT CL=9
- MCKT, MEMORY, SDRAM, DDR3, 1G, 64M X 16, 1.5V, DIE REVISION G, 1.5NS AT CL=9
- MCKT, MEMORY, SDRAM, DDR3, 2G, 128M X 16, 1.5V, DIE REVISION D, 1.5NS AT CL=9

**Package Name**
- BGA80P-76
- BGA80P-96
- BGA80P-76

**RoHS**
- Is RoHS Compliant
- Is RoHS Compliant
- Is RoHS Compliant

**Term Base Material**
- BiAl-SnAg3.0Cu0.5 (SAC305)
- BiAl-SnAg3.0Cu0.5 (SAC305)
- BiAl-SnAg3.0Cu0.5 (SAC305)
Aero Standard Parts – Roadmap Example – SDRAM (DDR3 & DDR2)

Product Longevity Program (PLP): Assumes die revision or process node migration

---

**Technology recommended for new designs**

- **DDR3**
  - 2G (128M X 16): MT41 RoHS Pb-Free BGA80P-96 Package (Preferred Density)
  - 2G (256M X 8): MT41 RoHS Pb-Free BGA80P-76 Package (Preferred Density)
  - 1G (64M X 16): MT41 RoHS Pb-Free BGA80P-76 Package
  - 1G (128M X 8): MT41 RoHS Pb-Free BGA80P-96 Package

- **DDR2**
  - 2G (128M X 16): MT47 RoHS Pb-Free BGA80P-84 Package (Preferred Density)
  - 1G (64M X 16): MT47 RoHS Pb-Free BGA80P-84 Package (Preferred Density)

- **Micron**
  - 1G (64M X 16): MT41 RoHS Pb-Free BGA80P-84 Package

---

**Technology not recommended for new designs**

- **DDR3**
  - (Rev D - 50nm) 1.50V DDR3 (MT41J128M16HA-15EIT:D)
  - TBD 535 HPN (MT47H128M16RT-25E XIT:C)

- **DDR2**
  - (Rev H - 50nm) 1.50V DDR3 (MT47H64M16HR-3IT:H)
  - TBD 535 HPN (MT47H128M16RT-25E XIT:C)

---

Pb-Free BGA: SAC305/SAC405 balls, only RoHS Pb-Free packages are on Micron’s PLP.

SnPb BGA: As of the date of this roadmap revision, this package option is still available. Micron’s PLP does not include Pb-containing packages and plans to discontinue with PCN when demand is insufficient.
AeroNPR Tool - Tool for Processing New Part Requests
Aero Standard Parts – Proactive Obsolescence

Aero Part Assessment (PA) Tool - Element 2 Enhanced for OCC

2. Part Obsolescence Status (YTEOL) and OCC Obsolescence Data

YTEOL Resources: Supplier
YTEOL: 8 or more

Aero Obsolescence Critical Component (OCC)? Yes

OCC Obsolescence Data:
Current Die Revision: K
Current Process Node: 30nm
Forecasted EOL Notification Date for Current Die Revision: 2018
Forecasted Next Die Revision Release Date: 2019
Forecasted Next Die Revision: TBD
Forecasted Process Node: TBD
Covered by Product Longevity Program (PLP)? Yes
PLP End Date: 2021
Forecasted Product Family EOL Notification Date: 2021

MT9KL28M16JT-128AIT: K is listed on Micron Product Longevity Program (PLP) list which means it should have at least 8 years of life; the PLP entry dated is 5/4/2011. The

> 4 years
1-Preferred
< 4 years
3-Restricted 4-Do Not Use
Discontinued or LTB
5-Obsolete 6-Not Rated

Related Documents:
Add
AeroPA Tool – Tool for Assessing Parts
AeroSA Tool – Tool for Assessing Suppliers
CPP Process

The risk assessment process (shown to the right) standardizes practices to:

- Develop and deploy a risk assessment plan when parts are not available from authorized sources, or when a risk is identified per this procedure.
- Determine appropriate testing processes determined in the commodity statement of work regarding the suspect product.
- Document and follow risk mitigation actions located in CAWS.
**GIDEP Process**

1) GIDEP representative reviews the report.

2) Does it apply to Honeywell Product, if so it is distributed to all parties involved.

3) Low risk: Production may already be aware of the issue, Process changes may have solved the problem, or the issue may not appear due to processes.

4) A deep dive is performed to identify the issue and a plan created to mediate it.

5) File the report with DCMA, GIDEP, and internally.

---

1. Review GIDEP report for applicability.

2. Applicable?

3. Low Risk?

4. Investigate and remediate non-conformance(s) when identified.


END
Q&A?