

List of companies that attended MECATRONIC CONNECTION Aix les Bains (France)

1/ CONTRACTORS

ABB France Division Process Industrie

Activity : Engineering for production units (conception, production of complete units for lubricant and chemical industries).

AIRBUS FRANCE - Electrical Dpt

Activity : Aircraft manufacturer.

AIRBUS FRANCE - Mechanical Dpt

Activity : Aircraft manufacturer.

AKROS SAS

Activity : Conception and production of press and shears for metal recycling.

ALPES CONNECTIQUE SERVICES

Activity : Conception and production of connectors and connecting parts.

ALTRAN RHONE-ALPES

Activity : Sourcing for contractors.

AREVA T&D (Mâcon)

Activity : Conception and production of systems for energy transmission and distribution.

AREVA T&D (Aix les Bains)

Activity : Conception and production of systems for energy transmission and distribution.

ASD Service Industrie

Activity : Group of SME's with a multi-technological offer in mechanics, looking for new partnerships in electronics.

ATS AUTOMATION

Activity : Integration of automation systems for industrial plants. Turnkey automated systems of assembly and test.

BIOMERIEUX

Activity : Conception and production of diagnostic systems for industrial and medical applications.

BCSA

Activity : Engineering of mechanical transmissions, test benches, and turning machines.

BOSCH REXROTH SAS (Bonneville)

Activity : Conception and production of pneumatic valves.

BOSCH REXROTH SAS (Venissieux)

Activity : Equipment and pneumatic and hydraulic systems, translation and drives and control.

CAPTELS

Activity : Production of industrial weighing systems.

CEA CESTA

Activity : Research and development of specific measures.

CEA LETI

Activity : One of the most important European Research Center in electronics. Technological transfer with the industry.

CHAUVIN OPSIA BAUSCH & LOMB

Activity : Industrial medical group specialised in the production of ocular implants for the cataract.

CLO ELECTRONIQUE

Activity : Conception and production of connectics products and coil winding.

COLLECTE LOCALISATION SATELLITE

Activity : Worldwide leader for collecting of environmental data, localization, and observation of oceans by satellite.

CP INNOVATIONS TECHNOLOGIES SAS

Activity : Assembly of industrial production and test equipments.

CSTI

Activity : Central purchasing office for industrial contractors (mainly Germany and Switzerland).



DIAMED AG

Activity : Manufacturer of disposables and products for blood testing. Manufacturer of instruments for immunohematological diagnostics.



DIVISA PRECISION

Activity : undercutting and machining of medical parts mainly, and assembly.

EADS ASTRIUM SPACE TRANSPORTATION

Activity: The European prime contractor for civil and military space transportation and manned space activities.

ECE - ZODIAC

Activity: 1st tier Equipment Manufacturer specialised in the conception and production of embedded systems and equipments for the aeronautics industry.

ELECTRICFIL AUTOMOTIVE

Activity: Automotive equipment manufacturer specialised in the conception and production of innovative sensors, actuators, and mechatronics units for engines.

ESSILOR

Activity: Conception and production of instruments for opticians.

EUROCOPTER

Activity: Conception and production of embedded electrical lighting for helicopters.

FAURECIA DIVISION « INTERIOR SYSTEMS »

Activity: 1st tier automotive equipment manufacturer specialised in the conception and production of seats, interiors of vehicles, and exhaust systems.

FAURECIA - Centre Technique de Seloncourt

Activity: 1st tier automotive equipment manufacturer.

FAUTEUILS MOCQUOT

Activity: Production of wheelchairs and innovating technologies for the medical sector.

GANZONI France

Activity: Conception and production of textile medical products.

GENERAL AIRPORT SYSTEMS

Activity: Aeronautics company specialised in the production of maintenance material for airports.

GROUPE NEXEYA – ISIS

Activity: Industrial group dedicated to the Defence, Aerospace, and Transport markets. NEXEYA is specialised in conception, production of complex electronic products with high added value. ISIS produces test benches for aeronautic (A380 bench), railway (TGV), and space systems.

GUNNEBO ELECTRONIC SECURITY

Activity: Design, conception and manufacturing of safety equipments (interlocking systems, aluminium security doors, ...).

GURTNER

Activity: Engine equipment manufacturer for the automotive industry.

HUTCHINSON

Activity : Industrial and railway group specialised in the production of deformable technical rubber parts, and filling of cylinders.

IER - Groupe BOLLORE

Activity : Worldwide leader of transport equipment networks, control of boardings and safety treatments for passengers and luggage. One of the most important suppliers for access control equipments and RFID.

IN-LHC

Activity : Manufacturing of hydraulics equipments for the aerospace industry.

INERGY AUTOMOTIVE

Activity : Automotive equipment manufacturer specialised in the production of fuel systems.

INTEREP

Activity : Manufacturing of cellular waterproof rubber parts for the aerospace and automotive industry.

INTERTECHNIQUE

Activity : Conception and production of oxygen systems and respiratory systems for the aerospace industry.

INVENSYS CONTROLS

Activity : Industrial group specialised in the conception and production of household appliance components.

ISIS MPP

Activity : Equipment manufacturer in the conception and production of aeronautics, railway, and automotive test benches.

I.T.G.

Activity : Technical organisation and industrial process.

JAY ELECTRONIQUE

Activity : Production of command and industrial automatism systems.

JESSICA France

Activity : Support program for SME's specialised in the electronics field.

LA DIFFUSION TECHNIQUE FRANCAISE

Activity : Manufacturing of medical products.

LIEBHERR AEROSPACE SAS

Activity : Aerospace equipment manufacturer specialised in the conception and production of air conditioning systems (pressurization, deicing,...)

LOHR INDUSTRIE

Activity : Conception and production of passengers transport vehicles and tramways.

MECAPLAST

Activity : Automotive equipment manufacturer specialised in the production of engine parts and systems, and interior/exterior trims.

MGI COUTIER - Mechatronic Dpt

Activity : Automotive equipment manufacturer specialised in the injection of parts, fluid transfer systems, and electrical components.

MOBILITY TECH GREEN

Activity: company specialised in the conception and production of carsharing global solutions.

NANOVATION

Activity: Nanovation is a SME specialized in the development of materials based on ZnO for the optoelectronic market.

NEXTER ELECTRONICS

Activity: Electronic equipment manufacturer for the sectors of Defence, Naval, and Railway.

NOVEXIA

Activity : Conception and production of low and medium voltage electrical equipments.

NIEF PLASTIC

Activity : Automotive equipment manufacturer specialised in the production of plastic parts.

NEXANS

Activity : Worldwide leader in the conception and production of wires and cables for aerospace, space, and medical industries.

PAC VENDING / COTE PAIN

Activity: Food industry group: PAC VENDING is in charge of the conception and production, COTE PAIN is in charge of the distribution and sales of the products.

PHENIX International

Activity : Conception and production of engine coil winding.

PLASTIC OMNIUM

Activity : Automotive equipment manufacturer specialised in the production of plastic parts.

PROFALUX

Activity : Conception and production of rolling shutters.

PROSYS

Activity : Conception and production of special machines.

PURPLE LABS

Activity : Conception of hardware solutions for the manufacturing of telecom products (mobiles, ...).



S.A.B.C.A.

Activity : Design, conception, and production of structures and activation systems for the aerospace and space industries.

SCHAFFNER

Activity : Automotive equipment manufacturer specialised in the production of filtration electronic components.

SCHNEIDER ELECTRIC - Purchasing Dpt

Activity : Equipment and solutions for the electrical distribution and energy management systems.

SCHNEIDER ELECTRIC - Mechatronics Dpt

Activity : Equipment and solutions for the electrical distribution and energy management systems.

SKF AEROSPACE

Activity : Manufacturing of flight control equipment for the aerospace industry.

SKF FRANCE

Activity : Manufacturing of sensor units and sensor bearings.

SKIS ROSSIGNOL SAS

Activity : Manufacturing of winter sport equipment.

SMAC

Activity : Conception and production of acoustic systems for aircraft.

SNR ROULEMENTS

Activity : Production of bearings for the automotive, aerospace, and industrial sectors.

SOCOMEC

Activity : Conception and production of electrical equipment, industrial switches.

SODEM DIFFUSION

Activity : Manufacturing of medical equipment.

SOPRANO

Activity : Conception and production of air condition systems, energy conversion, electronics and control command systems in harsh environment.

STAGO

Activity: Conception and production of a range of reactivities and instruments for analysis laboratories.

THALES AVIONICS

Activity: Conception and production of equipments for the aerospace sector.

UNION PUMP

Activity : Conception and production of high technological centrifugal pumps for nuclear and petroleum sectors.

VALEO SECURITE HABITACLE

Activity : Automotive equipment manufacturer specialised in the production of access systems.

VALEO SYSTEMES ELECTRIQUES - Purchasing Dpt

Activity : Automotive equipment manufacturer specialised in the conception and production of alternators and Stop & Start systems.

VALEO SYSTEMES ELECTRIQUES - R&D Dpt

Activity : Automotive equipment manufacturer specialised in the conception and production of alternators and Stop & Start systems.

VISIOCORP France S.A

Activity : Automotive equipment manufacturer specialised in the conception and production of rearview mirrors.

2/ SUPPLIERS

3I TECHNOLOGIES

Activity : Design, conception, and production of mechatronics sub-units (software, specific calculators, test benches, ...).

A PLUS SYSTEME AUTOMATION

Activity : A PLUS is one of the most important supplier of industrial software products (hardware and software solutions).

ACTECH

Activity : Engineering in mechanics, plastics, electronics, industrial software, embedded systems, and mechatronics systems.

ACJH Group

Activity : Electronics subcontracting (CMS and traditional boards, sub-units, connectics, components, ...). Global offer, from conception to production.

ACJH MAROC

Activity : conception, and production of electronic boards, cabling, manufacturing of electrical lighting, prototypes, tests.

ACTEL EUROPE

Activity : Worldwide leader of programmable integrated circuits (FPGA). Reducing time and cost of electronic design through use of programmable gates arrays.

ALPES DEIS

Activity : Conception of mechatronic products and software for microcontrolers, DSP, PC, Pocket PC, mobiles, ...

ALTAIIRE

Activity : Automatism, industrial software, and electromechanics. Design, conception, and manufacturing of industrial process. Global management of projects.

AMESYS

Activity : Mixed expertise and engineering in mechatronics, electronics, software, electrotechnics, automatism, physical measurement, and wireless technologies.

ANNECY ELECTRONIQUE

Activity : Electronic and software engineering. Electronics manufacturing and subcontracting. Conception and production of its own products.

APOJEE S.A.

Activity : Complete offer in the fields of electronics and mechanics. Design, conception, and consulting in embedded electronics.

ARVELEC

Activity : Electronics subcontracting : design, conception, production, test in CMS and traditional technologies.

ASSYSTEM

Activity : International group specialised in engineering and innovation consulting (product and process engineering in electronics, embedded software, automatism, industrial software, networks and telecom).

BEAVER MOLDS

Activity : Conception and production of molds for injection of plastic, composite, and die casting parts.

CANON BRETAGNE

Activity: Global offer from conception to production in the following fields : electronic boards, mechanical sub-assembly, mechanization, plastics injection, packaging, assembly of products, after sales service.

CENTRALP AUTOMATISMES

Activity : Electronic and mechanic integration, conception, development, production, and integration of boards and electronic systems for embedded and industrial sectors. Information system, automatism,CEM qualification.

CETIM – Mechatronics Research Center

Activity : Conception, prototyping, and test of mechatronics systems : integration of micro-sensors in industrial products – transmission and movement controls. Training.



CIPSA

Activity : Conception and production of printed circuits : PTH double face circuits, multilayer circuits, flex circuits and flex rigid circuits, single side circuits, aluminium copper clad circuits “IMS”, power circuits (up to 400µ Cu), front panels, membrane switches,

CLO ELECTRONIQUE

Activity : Conception and production of military connectors, wireless cabling, microelectronics units.



CONSEGRUA S. COOP. MAD.

Activity: Precision sheet-metal work, stamping and tooling manufactures for mechanical and electronic elements, mainly for the industrial sector.



CORONA SPA

Activity: multilayer printed circuit boards and rigid-flex production.

COTTERLAZ Metalis Group

Activity: Conception and production of specific connectors, SMD connectors, board to board, antennas, and armour plating. Frequency tape from 434 Mhz to 5,8 Ghz. Technologies used: cutting, moulding/overmoulding and assembly. Production units in France, Slovakia, and China.

CREATIVE EURECOM

Activity : R&D Center in electronics with competences in software and hardware, and mechanical integration. Production in small and medium series.

CROUZET AUTOMATISME S.A.

Activity : Manufacturing of sensors (micro-switches, angular sensors, ...), and solutions integrating micro-motors for the industrial, automotive, and aerospace sectors.

dSPACE

Activity : Worldwide leader in engineering for the development of electronic and mechatronics control units and command systems.

DBC

Activity : Undercutting, precision machining, and assembly. Conception and production of prototypes and mechanical sub-units in small, medium, and large series.

DELTA COMPOSANTS

Activity : Metallic wires and strips, embossing, micro-drilling, plastics, and cable assembly. Production unit in Romania.



D.E.M. (Diseny Estudi i Mecanització)

Activity: Electrodes, Electrode Holders and Arms to be fitted to guns for Spot Welding, either by hand or robots. Accessories for spot welding: welding wheels, swivel electrodes, shanks, shunts, busbars, supports, extension leads, centring devices. Special Jig & Tools related to Resistance Welding.

ECM (Engineering Conception Maintenance)

Activity : Product and process engineering for high tech sectors: competences in mechanics, plastics, electronics, composites, real time software, data and acquisition treatment.

EFOPC

Activity : General-purpose industrial group, from conception to production of parts, components and simple or complex mechanical sets. Mechanics, Plastics , Reverse engineering .

EFS

Activity : Design, conception, and manufacturing of electromechanical and electronic equipments in small and medium series. Integration of software and mechanical technologies.

EMI – Electro-Mécanique Industries

Activity : Conception and manufacturing of embedded mechatronics systems (development of electronic embedded products, industrialisation and production of global products, moulding and overmoulding of plastic parts, mechanization and undercutting, cutting and stamping, assembly).

EMKA ELECTRONIQUE

Activity: Global offer in electronics and electrotechnics : design, conception, development, prototypes, industrialisation of electronic products. Evolution of existing products, purchasing of components, wiring cabling, cabling of printed circuits, electrical boxes, heater boxes, and assembly.



ESTAMPACIONES METALICAS JOM

Activity: JOM is a company from the metallurgical sector whose business is covering the sub-contracting and supply needs of all types of metal parts (cold metal stamping, laser cutting, blanking, piercing, bending and all types of welding).

ETABLISSEMENT PAULME S.A.

Activity : Undercutting, mechanical assembly, surface treatment.

FIMOR / BICEL TECHNOWORLD

Activity: High reliability components : leds, revamping for electronics, keyboards, optronics and connectics. Leading company specialised in the fields of screen printing blades, polyurethane, gasket, silicone elastomers, keyboards and interfaces, joints, parts on plans, electronic sub-assemblies.



FIPA TUNISIA

Activity : Tunisian public organism which informs and supports foreign investors in Tunisia. Promotion of investment and representation of subcontracting companies specialised in the fields of electronics, mechanics, plastics, ...

FIATEQ SARL

Activity : Engineering in the field of industrial equipment mechanism safety, management of risks, quality insurance.

GCG ERMA ELECTRONIQUE

Activity : Cabling and integration of electronic units and sub-units, especially for the aerospace industry. Conception of test benches. Integration of plastic parts.

GERAL

Activity : Conception, and production of command and control electronic products. Serial production mixing different technologies (numerical electronics, power electronics, electrotechnics, pneumatics, design and packaging).

GROUPE ERCE PLASTURGIE

Activity : Conception and production of mechatronic systems with intelligent plastic solutions.

GROUPE SIMONIN

Activity : Conception and production of mechatronics sub-units (France or Marrocco) : cutting of metal parts, overmoulding, assembly, bi-injection, plastic injection, electronics, cabling and electrical lighting.

IMTEC

Activity : Moulding and overmoulding of technical plastic parts. Cutting, injection, prototyping, R&D, engineering. High precision assembly of units and sub-units with innovative plastic solutions.

INDEEP

Activity : Design, conception, and production of innovative electronic systems in small, medium, and large series, with a specification in embedded electronics.

ISA France

Activity: Micro-injected and micro-stamped parts with very high precision (+/-3 microns) Microinjection of technical plastic (PPS, LCP, PEEK,...), weight from 0.001gr to several grams. Micro-stamping, high precision. Micro-assembly metal on metal, metal on plastic.

ISP SYSTEM

Activity: Conception and production of precision equipments and innovative industrial means. Mechanical, electromechanical, mechatronical, and optomechanical precision equipments. Competences in R&D, studies, prototyping, and serial production (< 5 000 units / year).

JEANTET ELASTOMERES

Activity: Rubber moulding, development and formulation of rubber compound, conception of corresponding tools, production of specific products according to customer specification and drawings. Over moulding on plastic, metal castings.

JOUVEL

Activity: Production, subcontracting, and test of electronic equipments.

KOPEK VERLOES

Activity: Realization of mechanics of precision part, assembly of simple and complex sets (groups). Undercutting, numerical machining, connectics, EDM, rectification.

LECOURT PROTOTYPES

Activity: Conception and production of prototypes and models, functional prototyping, mechanical modelling and 3D numerical technologies.

LEMAN INDUSTRIE

Activity: Cutting, stamping, plastic injection, overmoulding of power electronics circuits, specific connectors and sensors, mechatronic sub-assembly.

MAATEL

Activity: Conception and production of electronic products. Engineering and innovative solutions : numerical and analogical electronics, embedded software, mechanics and EMC.

MACCS

Activity: Modeling, conception assistance, structure calculation.



MANAUT S.A.

Activity: Manaut produces metal parts and components by means of sheet and pipe transformation. We develop processes of robot welding, pipe bending, stamping, tooling, machining and polishing. Nowadays we deliver parts to the main motorcycles manufacturers in Europe.



MAPRO TECHNOLOGIES

Activity: Spanish Engineering company, based in Barcelona with international presence (Europe, North America and Asia), focused on the design and manufacture of Test Equipment and Assembly lines for the automotive, aeronautical and other industrial sectors.

MATRA ELECTRONIQUE

Activity: Production of electronic equipment: electronic and mechanical design, software development, design office, design and manufacturing of tooling, ERP, wiring and braiding (EMC) tools, populated boards with TTH & SM component.

MECATRONIC SEINE-AMONT

Activity: Group of 30 companies and research centers with a complete mechatronics offer. More than 20 fields represented : conception (design, mechanics, electronics, industrial software), materials (mechanics, plastics, composites) and mechatronics assembly.

M.E.S.A.P. (Mechatronics and Systems for Advanced Production Innovation Cluster)

Activity: Innovation cluster in mechatronics: competence and technology networking in the fields of mechatronics and advanced manufacturing. Innovation clustering and technology transfer. MESAP clusters about 100 subjects coming both from industry and R&D providers.

MESURE CONTROLE SERVICE

Activity: Realisation of turnkey automatism projects, conception of supervision systems, control and verification of industrial fittings and process, gaz fitting control. Supplier of measurement material (temperature, pressure, humidity control): regulator, recorder, graduator, transmitter, humidity and temperature sensors, optical pyrometer, wireless sensor.

MGB

Activity : Conception and manufacturing of connectors using the technologies of undercutting. Production units in France, United States, and China.

MICROPLAST

Activity : Conception, design, moulding, plastic injection and assembly of plastic parts.

MIND – MICROTEC

Activity : Technological platform and R&D center in electronics and microelectronics (micro-systems, analogical electronics, sensors, FPGA, RFID, production in small series).

MSL CIRCUITS

Activity: Supplier of global electronic solutions: conception, production and management of products for worldwide technological and electronic companies for the sectors of industry, automotive, and medical. More than 30 years of experience.

NEXUS PROYECTES

Activity : Composite part manufacturer with facilities for hand lay-up and RTM that has completed its original production capacity with the development and process engineering services needed to offer turnkey solutions for components and systems based on composite materials technology.

PEM

Activity : Reel to reel surface treatment, selective or full, on full band or on stamped pieces.



PLASTECCA - Plàstic Tècnic de Catalunya,S.L

Activity: Specialist in technical parts of small size (aprox 500 grs maximum). PLASTECCA has injection machines from 35 to 160 Tonnes.

POLYTECH SAVOIE - Université Anney / Chambéry

Activity: University of engineers specialised in the following fields: mechatronics, software, automatism, mechanics and productics, composites, environment, ...

PN ELECTRONICS

Activity : Electronic components distributor : distribution, technical support and design, purchasing central office, sourcing and logistics.

PURPLE LABS

Activity : Conception of hardware solutions for the manufacturing of telecom products (mobiles, ...).

R.E.M. (Réseau d'Expertise Mécatronique)

Activity : Network of companies with complementary activities in the fields of mechanics, electronics, automatism, and industrial software.

RB3D

Activity : Design and conception of mechatronics intelligent systems : design, studies, prototyping, production in small and medium series.



RIPLEG SAU

Activity : Subcontracting in three main fields: metal sheet mechanization (laser cutting, punching, bending, welding, and assembling). High technology in Electrical wiring (harnesses, electrical panels). Assembly (sets assembly and complete products manufacturing). Co-developing of complexe projects.

ROCH MECANIQUE DE PRECISION

Activity : Machining assembly of mechanical components. 5-axis Control Vertical Machining Center - multi-axis turning Centers, undercutting, micromechanics. Small and medium series, Management of global projects, from conception and prototypes to industrialisation. Co-developing of projects.

SAGAERT GROUPE FAUCHILLE

Activity : Group composed of 22 production units in the following fields : plastic injection, overmoulding, moulding, sheet metal, cutting, bending, assembly, springs, and technical textiles (weaving, hand-knitting, ...).



SANCOR

Activity: Company specialised in conception and production of monophasics and triphasics transformers and auto-transformers (from 40 VA to 400 KVA), voltage dimmer, toric transformers, coil winding for specific applications and general utilisation. Own laboratory for treatment and tests.

SAVOY INTERNATIONAL

Activity : Multiple competences of a group with a global offer in the fields of mechatronics systems, plastics, mechanics, and electronics.

SECAD

Activity: SECAD designs your electronic systems taking into account your criteria of performance, price, quantity, norms (electric, climatic, mechanical and environmental ...), and your requirements of mechanical integration (design, size, fixing, cabling and wiring, electrical connections...).

SENSOREX

Activity: Conception and production of LVDT / RVDT sensors. Miniaturization of embedded electronics solutions.

SEPAL GROUPE FAIVELEY

Activity: Conception and production of high precision plastic parts. R&D, engineering, overmoulding, bi-injection, micro-injection and injection.

SERMA TECHNOLOGIES

Activity: analysis and expertises for electronic components, boards, and systems.

SIMONIS PLASTIC

Activity: Integrator in the sector of polymer processing by injection moulding. Plastic injection moulding equipped with an up-to-date injection plant, offering complementary activities such as engineering & design services, rapid prototyping, mould test center, manufacturing & assembly.

SOFIDIS

Activity: Conception and production of connectors and commutation components dedicated to the electronic and electromechanic industries.

SONY ESPAÑA – BARCELONA TECHNOLOGY CENTER

Activity: Design, manufacturing and test of electronic circuits and devices according customer's specifications. PCB Mount production facilities capable for the assembly of any type of electronic boards indepently his technological complexity, in flexible lines for any volume of production.

STEQUAL

Activity: Cutting, stamping, plastic injection, overmoulding, machining, assembly, connectics, thermal treatment, production of tools (injection molds and cutting tools), mechatronics assembly. Production capacities in medium and large series. Management of global projects, from conception to industrialisation. Production units settled in France, Europe, Morocco, and Bresil.

STEO

Activity: Mechanical engineering – conception and production of plastic and metal parts.

STI

Activity: Conception and production of electronic boards in small, medium, and large series. Integration of electronic sub-units. Cabling of electronic boards (CMS and traditional).

STS INDUSTRIE

Activity: Turnkey production of finished products or half-finished products, in small, medium, or large series : mechanics, plastics, electronics, automatism. Assembly and control.

TFL SOLUTIONS

Activity : Study office and engineering in mechanics and mechatronics.

THE MATHWORKS

Activity: The MathWorks is the leading developer of mathematical computing software. MATLAB, "the language of technical computing," is a programming environment for algorithm development, data analysis, visualization, and numeric computation. Simulink is a graphical environment for simulation and Model-Based Design of multi-sectors dynamic and embedded systems.

THESAME

Activity: First mechatronics European network dedicated to industry, research, and training. 3 kind of activities: transfer of knowledge, transfer of competences, and transfer of technologies.

WYTEK

Activity: Company specialised in wireless technologies applied to data transmission in industrial environments. Specialized in wireless sensor networks, we propose Councils, Studies, expertises and turnkey project solutions for your industrial applications in monitoring and control command.