



## AEQ REFERENCES IN AUDIOCODECS 2005 – 2021

Updated July 2021



## 2021

### ARAGON RADIO, SPAIN



Aragón Radio is the commercial brand of Radio Autónoma de Aragón S.A., the public radio of this region, located in the Northeastern Spain and in the river Ebro basin.

basin.

Aragon Radio has acquired a personal Talent audio codec to expand the pool of audio codecs for remote intervention by its presenters and journalists.



### BROADCAST RADIO. UK

Broadcast Radio is an English software developer and integrator, focused on providing complete services for radio broadcasting, whether for studios or software, installation, training and managed services. Broadcast Radio services are available to cover complete solutions for radio at all levels.



In addition to numerous AEQ mixing consoles, in 2021 they acquired among other ten Stratos audio codecs for a radio network, and 2 Venus3 audio codecs for a radio permanent link.

### CADENA COPE. SPAIN.

The Spanish COPE Radio Company is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.



En 2021 COPE acquired:

- 5 Phoenix ALIO audiocodec for outside broadcast and correspondents,
- 1 Phoenix TALENT audiocodec for outside broadcast and correspondents,
- 2 Phoenix Mercury audiocodec for studios, STL backup and audio contribution
- 20 Phoenix Venus3 audiocodecs for studios, STL and audio contribution

### CASTEL TELECOMUNICACIONES. CHILE

Castel Telecomunicaciones, is a Chilean company with the highest qualification in radio. Manufacturer of AM transmitters, offers complete solutions for broadcasters.



In the first half of 2021, 18 personal Talent five stationary Mercury and one dual stationary Venus3 audio codecs, were integrated by Castel into Chilean radios.



In the photo RADIO SAN JOAQUÍN 107,9FM

### CMM MEDIA. RADIO CASTILLA LA MANCHA. SPAIN

Cmm media is the public broadcaster in the Community of Castilla la Mancha, Spain. Radio Castilla la Mancha is the radio network integrated in CMM Media

It acquired, a Talent personal audio codec for reporters



CASTILLA · LA MANCHA

### CNC INVERSIONES. CHILE

CNC Inversiones is a communication company based in Antofagasta (Chile). In addition to television, it operates the radio stations FM Plus, FM Quiero and Radio Canal 95.



In 2021 they adapted their communications to the current situation by acquiring a pool of 10 personal Talent, 3 stationary Mercury, and a Venus3 audio codecs

### CORPORACIO CATALANA DE MITJANS AUDIOVISUALS. SPAIN

Is the public body that manages the audiovisual media of the Generalitat de Catalunya, the channels of Televisió de Catalunya and the group of stations of Catalunya Ràdio.



They have acquired in 2021 4 Talent personal audio codecs for reporters and a Phoenix Control Multi to manage all their AEQ codecs

### EITB. SPAIN

Euskal Irrati Telebista (EiTB) is the leading communication group in the Basque Country (in the north of Spain) with five television channels, five radio stations and a website. Of a public nature, it offers programs in Basque and Spanish languages



They have acquired two personal Talent audio codecs for television journalists

### ERT. GREECE

Ellinikí Radiofonía Tileórasi Is the public broadcasting corporation of Greece. It manages five television channels and eight radio stations.



In 2021, it acquired 2 Phoenix Venus3 Audiocodecs to expand its broadcast network system. It has about 50 AEQ Codecs.

### IBERO 90.9. MEXICO

The Universidad Iberoamericana station in Mexico City is a leader in youth content.

In 2020 they acquired a Venus3 and an Alio for broadcasts in mass events, while in 2021 they are about to acquire 5 Talents to distribute them with their main announcers so that they can broadcast from home.



### IRIB. IRAN

The Radio Television of the Islamic Republic of Iran or RTVRII, better known by its acronym in English IRIB, is an Iranian media company that has a monopoly on radio and television services in Iran.



سازمان صدا و سیما جمهوری اسلامی ایران



In 2021 they acquired 2 Talent personal audio for Outside broadcasting.

### MEDIAPRO. SPAIN

Mediapro, is an international audiovisual group of Spanish origin. Its activity is the production of content for film and television, the management of sports rights and the management of audiovisual services and other associated services.



Through its technology subsidiary Unitecnic, they have acquired in 2021 four Stratos audio codecs for their production centers

### MEDIASET ESPAÑA. SPAIN

Mediaset España, is a Spanish communication group, founded on March 10, 1989 by the Italian company Mediaset, controlled by the Fininvest group. , owned by Silvio Berlusconi. Its activity is essentially focused on the production and exhibition of television content. It currently operates the television channels Telecinco, Cuatro, Factoría de Ficción, Boing, Divinity, Energy and Be Mad, as well as Telecinco HD and Cuatro HD.



MEDIASET Spain acquired 3 Talent portable audio codecs for the use of some of its journalists

### OLIMPICA STEREO, COLOMBIA

Olímpica Stereo is a radio station in Colombia, it shows tropical music and is present in 24 cities of the country



Through the integrator Asesorias Dap, they have acquired a Talent and a Mercury audiocoders for reports

### ONDA MADRID. SPAIN

Onda Madrid is a public radio station in the Community of Madrid, Spain. The station is integrated into Radio Televisión Madrid.



It acquired, 15 Talent personal audio codecs for reporters

### RADIO 4G. SPAIN

Radio4G is a radio platform in Europe, based in Spain, which also allows you to listen to all kinds of generalist and musical radio stations from both Spain and the rest of the world.



It acquired a Venus 3 and an Alio portable audio codec for interviews and outside Broadcasting at its Zaragoza station.

### RADIO AGRICULTURA. CHILE

## agricultura



Radio Agricultura is a Chilean radio broadcasting network belonging to the association of landowners. As the only station with which provincial radio stations can affiliate, Radio Agricultura uses agreements with other radio stations, in addition to a network of transmitters throughout Chile, to broadcast across the country.

Agriculture has used AEQ equipment for about 25 years. Now, through the integrator Castel they have acquired a dual stationary audiocodec Venus3 and a personal audiocodec Talent

### RADIO MARCA. SPAIN

Radio Marca is a Spanish radio network that broadcasts sports information 24 hours a day. The station belongs to Grupo Unidad Editorial, which in turn belongs to the Italian group RCS MediaGroup.



It acquired 5 Talent portable audiocodec for correspondents and outside broadcasting, and a Phoenix Control Multi application to centrally manage its entire fleet of Phoenix codecs.

### RADIO RANCAGUA, CHILE

Radio Rancagua is a Chilean radio station located on 99.5 MHz of the FM dial in Rancagua, Chile.



It broadcasts contemporary music and Latin pop. They also broadcast local sports.

In 2018, they purchased an ALIO audio codec and a Mercury audio codec for outdoor broadcasts. In 2021 they have expanded their equipment with a personal Talent audio codec.



### RADIO SINTONIA. SPAIN

Radio Sintonía broadcasts daily live news, coverage of events, programs and music from the island of Fuerteventura to the Canary archipelago.



They purchased two TALENT personal audio codecs for coverage de Events.



In the photo, broadcast from Fitur, the tourism fair in Madrid in 2021

### RETEVISION -CELLNEX - ABERTIS- TRADIA. SPAIN

Retevisión is the main television and radio signal transport operator in Spain.

It acquired, in 2021, 19 Audiocodex Phoenix Venus 3 for its own network for the transport of radio and television programs, some for STL, others for distribution and even some for contribution



## RTVE. SPAIN.

RTVE is the public broadcaster of the entire Spanish state. For television it uses the brand TVE and for radio RNE



RNE has acquired 20 licenses for the PHOENIX CONTROL MULTI application in 2021, to manage the AEQ audio codecs with which it works in each Territorial Center. Also RNE purchased 10 AEQ Phoenix TALENT personal audio codecs for some Territorial Centers.

TVE purchased 3 AEQ Phoenix TALENT personal audio codecs for his Control Central Internacional in Torrespaña (Madrid)



## SER RADIO. SPAIN

Cadena SER is a Spanish, general and national radio station, owned by Grupo PRISA. It is the pioneer and most listened-to radio in the country, with around four million listeners along with music stations LOS40, LOS40 Classic, LOS40 Dance, LOS40 Urban, Cadena Dial and Radiolé. It can be tuned through DTT, AM, FM, DAB, streaming and applications.



They have acquired 2 audiocodescs Venus3 for studios, contributions and broadcasting centers, and 6 Talent portable audiocodec for correspondents and outside broadcasting.

## SPORT TV. PORTUGAL

# SPORT • TV

Sport TV is a Portuguese television network, with five national pay channels on sports themes.

They have acquired 3 Stratos audio codecs to expand their equipment for outdoor broadcasts. They have also purchased a Phoenix Control Multi license to manage their fleet of AEQ audio codecs.

## TELEMUNDO US / MEXICO

Telemundo is an American terrestrial television network that broadcasts in the Spanish language. It is owned by Comcast through NBCUniversal. It has programming distributed around the world to more than 100 countries in more than 35 languages.



**TELEMUNDO**

The US network has a channel in Mexico City for the transmission of national events that are broadcast in Mexico and the United States.

In 2019 and 2021, it acquires Venus3 and 4 Talents equipment to provide service to its users from home and to be able to perform high-quality narrations.

## TELEVISA. MEXICO

Televisa is one of the most important television channels in Mexico and Latin America.



**Televisa**

Televisa has been continuously equipped with Venus3 and Alio audio codecs to cover various sports and entertainment events.

## TELEVISA RADIO. MEXICO

Radio group with the participation of Grupo Prisa, with high-audience radio stations such as W Radio, Los 40 and La K Buena.



**Televisa**  
RADIO

In 2021 he acquired a Venus3, a Mercury and 2 Talents for the remote transmission of its talents.

### TSA. SPAIN



TSA (Telefonica Servicios Audiovisuales) is a company of the Telefónica de España group that designs comprehensive turnkey projects including consulting, technical solution design, equipment supply, installation, integration, commissioning, training, coaching and support of the infrastructure provided.

They have acquired 2 audiocodexs Venus3 for connect two intercoms within a TV remote production system for Telefónica.

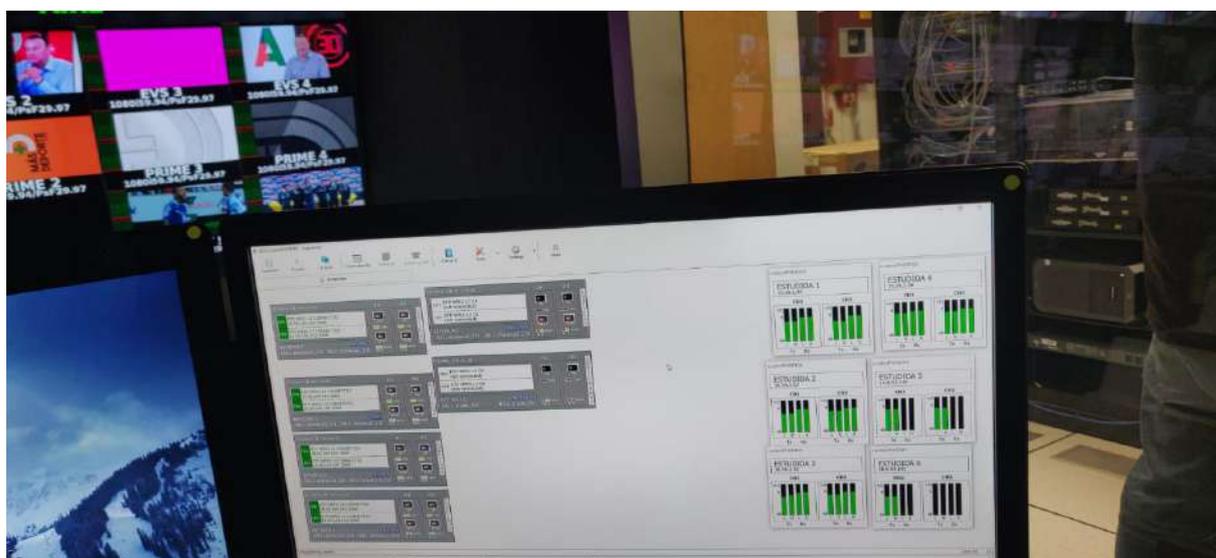
On the other hand, they have also acquired three Stratos Audiocodexs and a Phoenix Control Multi license to expand the equipment of their Mobile Unit

### TUDN. USA / MEXICO



TUDN (acronym for Televisa Univision Deportes Network) is a Mexican-American subscription television channel specializing in sports, owned by Grupo Televisa and Univisión.

From 2018 to 2021, TUDN has acquired six stationary Venus3 audio codecs, five Alio portable audio codecs and four Talent personal audio codecs, in addition to the Phoenix Control Multi management tool, for the coverage of its sporting events, among which permanent links via Mexico City-Miami, remote production of football matches stand out. soccer and coverage of major sporting events such as the Olympic Games.



## XARXA AUDIOVISUAL LOCAL. SPAIN

Xarxa maintains a network of about 150 affiliated stations in the Barcelona area, in Spain,.



Xarxa has bought 2 personal audio codecs Talent to avoid displacement of its collaborators



## 2020

### ARAGON RADIO, SPAIN

#### Aragón Radio broadcast from home 12/05/2020

#### THE ARAGÓN RADIO MEDIA FIGURES INTERVENE IN THE PROGRAMS FROM HOME WITH CODECS PHOENIX ALIO FROM AEQ

Aragón Radio is the commercial brand of Radio Autonómica de Aragón S.A., the public radio of this region, located in the Northeastern Spain and in the river Ebro basin.

Among the most popular voices of the regional network are Paco Ortiz Remacha, Ana Segura, Paco Doblas, and Javier de Solá. All of them -and many more- now work from home.

The spokesperson of Aragón Radio has told us: "The current situation requires us to work from home and from where we can produce our Radio programs. We are doing this with the same audio quality for our audience since listeners do not hear any difference in the final product being broadcasted. This has allowed us to continue working remotely with all the precautions, and reducing the risk of infection by the coronavirus COVID-19".

Aragón Radio has traditionally relied on the proximity, equipment, technical solutions and accumulated experience of the Spanish Manufacturer AEQ. Aragón Radio maintains a close technological exchange with AEQ.



A Phoenix Alio portable audio codec has been installed in the home of each of the four main presenters of this regional broadcaster. Connected to ADSL or domestic fiber, the ALIO becomes each talents local broadcast mixing console and is remotely producing the program audio and sending it to the Broadcasters headquartes. Here, two stationary Phoenix Venus3  
[AEQ AudioCodecs References](#)

Dante audiocoders have been installed as dual receiver equipment, that is, each one supports the connection of two ALIO Audiocoders. This allows easy two-way IP point-to-point communication between the presenters and the main Radio studio in Zaragoza.

The quality of transmission over the IP network is similar to what is achieved with the presence of the announcers in the studio. The equipment has been preconfigured at the station and has simply been connected to the Internet router at each house from where, after starting, they have automatically called the codec and channel assigned in the Central Control of the main station in Zaragoza. From there, all the controls of each ALIO are remotely operated, not only those for communication, but also the levels and tonality of each microphone and the level of each earphone are remotely regulated. Initially, the controls on the front of the device are locked to prevent errors, and the entire control is remote. When the presenter gets to know his tool, he is given access to use the controls in parallel with the Central Control Room. If the user observes any difficulties, press the HELP button to get the attention of the Central Control Room operator and check the connection.

"It is really good to be able to count on this type of professional solutions that AEQ offers us. It allows us to be able to continue to actively contribute to the programs remotely from home, staying on top of all the information and content during this current situation, and in turn with the maximum audio quality and security for users" says Aragón Radio.

The popular presenters of Aragón Radio Javier de Sola, Presenter of "Despierta Aragón Informativo", Paco Doblas, Director of "Despierta Aragón Magazine", Paco Ortiz Remacha, Presenter of "Aragón Deporte" and Ana Segura, Head of Programs of Aragón Radio, show us the radio studios they have set up at home: A laptop, a microphone, a radio-synchronized clock, an AEQ ALIO audiocoder, and a great commitment to help all their listeners with the most up-to-date information.

"For AEQ it is a privilege to have had the opportunity to participate in ensuring that these



magnificent professionals can inform first hand in a safe environment in the face of this critical situation for all - it fills us with great pride," says Guadalupe López, Sales Manager at AEQ and in charge of the needs of Aragón Radio.

## ARET. ITALY

Aret is a European leader in systems integration for television and audiovisuals. It also owns a fleet of OB Van for television production with the highest technology.



In 2020 they acquired two Phoenix Stratos audio codecs to provide OB Van with audio communications

## BROADCAST RADIO. UK

Broadcast Radio is an English software developer and integrator, focused on providing complete services for radio broadcasting, whether for studios or software, installation, training and managed services. Broadcast Radio services are available to cover complete solutions for radio at all levels.



In addition to numerous AEQ mixing consoles, in 2020 they acquired among other seven Mercury audio codecs for STL for Blackcountry Radio, Torbay Hospital Radio, 4 Venus3 audio codecs for Vitel TV in Ireland and the base station of an ALIO portable audio codec, and two Stratos for a radio permanent link.

## COPE. SPAIN

The Spanish COPE Radio Company is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.



En 2020 COPE acquired:

- 26 Phoenix ALIO audiocodec for outside broadcast and correspondents,
- 3 Phoenix Mercury audiocodec for studios, STL backup and audio contribution
- 8 Phoenix Venus3 audiocodecs for studios, STL and audio contribution
- 1 Phoenix Control Multi software to manage the fleet of local and remote audiocodecs.

**Spanish broadcaster COPE deals with the COVID-19 contributing from home with ALIO 20/03/2020**

**Cope, one of spains leading broadcasting networks and communciators have been using the audiocodec phoenix alio from aeq for several years.**

**The equipment has become critical to uphold the programming at these exceptional times of coronavirus**



Prior to this serious situation, the COPE network has progressively been equipping its foreign correspondents, collaborators, colleagues, journalists and talents with the AEQ PHOENIX ALIO portable audio codecs. COPE is the radio network that recently has grown most in numbers of active listeners and also counts on the most influential communicators in Spain. In total COPE has currently deployed nearly 200 units with its team.

The initial objective was that the correspondents could interact live with the programming, avoiding the unnecessary and difficult travel and locations. Further, it was intended to provide prominent Journalists and Talents with mobile connectivity from remote locations, so that they can participate actively on programs, co-work with other collaborators and presenters thus avoiding the traditional coldness of a chronicle or news contribution. Another reason, and in the same sense, was to minimize non-appearances in the live programming studios of people and occasional collaborators due to incompatible agendas, impossibilities to travel and other clashes of schedules.

Over the last few years, the operational aspects have been fine-tuned and with the requests and suggestions of COPE, the SW Tool for the ALIO in the ControlPhoenix application for the AEQ family of IP codecs has been optimized. A non-technical commentator connects the equipment, already preconfigured, to the Internet router in his home, and he no longer has to do anything else since the station starts and controls it. The buttons on the control panel of the equipment can be locked, leaving you only access to a button labelled “HELP” to call the remote operators’ attention, and who also have a software copy of the equipment controls.



There is a control application that can, from one or more workstations at the network headquarters, handle all the remote ALIO units and pair them with the stationary VENUS and STRATOS codecs in the central rack-room.

The quality of transmission over the IP network is similar to what can be achieved with the announcers present in the Studio.

If a journalist is located where she or he doesn't have a cabled Internet connection, a 3G or 4G router can be used. This is a relatively small accessory with a SIM card that allows you to use the mobile phone network as an IP connection, thus being able to access the station with high quality audio.

At this critical time, COPE has had to request most of its staff to work from home. Among them the networks' anchors or lead communicators for their main programming, such as Carlos Herrera or Ángel Expósito.

In these links:

[https://www.cope.es/programas/la-tarde/videos/cuelate-casa-pilar-fernando-asi-hacen-tarde-desde-sus-domicilios-20200316\\_1042571](https://www.cope.es/programas/la-tarde/videos/cuelate-casa-pilar-fernando-asi-hacen-tarde-desde-sus-domicilios-20200316_1042571)

[https://www.cope.es/programas/la-noche/noticias/salon-multifuncional-desde-donde-beatriz-perez-otin-acompana-cada-madrugada-20200317\\_649744](https://www.cope.es/programas/la-noche/noticias/salon-multifuncional-desde-donde-beatriz-perez-otin-acompana-cada-madrugada-20200317_649744)

The very popular presenters of COPE's afternoon programme, Pilar Cisneros, Fernando del Haro and Beatriz Pérez Otín show us their home studios, set up in their living rooms: A laptop, a printer, a microphone, a radio-synched clock, an AEQ ALIO audiocodec, and an enormous desire to help listeners to spend these difficult days in the best possible way.

AEQ is proud to have had the opportunity to participate in ensuring that these magnificent professionals can safely entertain, inform and guide the public in this exceptional situation. We also want to express our appreciation to COPE for the guidance and help provided to optimize our audiocodec transmission systems.

### DORNA – MOTO GP. SPAIN

Dorna Sports, S.L. is the organizing company of the Motorcycle World Championship held under the MotoGP brand, of which it owns the commercial exploitation rights.



Established in 1988 as a company for the management and promotion of sport, it is located in Madrid (Spain), and has offices and subsidiaries in Barcelona, Amsterdam, London and Rome.

DORNA has acquired the Phoenix Control Multi application to centrally manage its entire fleet of Phoenix codecs used in the broadcasts of Moto GP races.

### EFE NEWS. SPAIN

The EFE news agency, fourth in the world and first in Spanish, is a public company that provides information in Spanish, all over the world. It offers 24-hour radio service to many stations without the capacity for continuous programming.



It acquired two Venus3 audiocodecs for the contribution of its correspondents in audio format

### ERT. GREECE

Is the public broadcasting corporation of Greece. It manages five television channels and eight radio stations.



In 2020, it acquired two Mercury audiocodecs and the Phoenix Multi- Control software to manage its Phoenix fleet of audiocodecs.

### EUMOVIL. SPAIN

Eumovil is the subsidiary of the Mediapro group for the exploitation of OB Van.

In 2020, it acquired 8 Stratos audio codecs to expand the communication upgrade of its mobile units, and two licenses of the Phoenix Control Multi management application for the management of communications with AEQ audio codecs in its OBVan.



### IHEARTMEDIA. US

iHeartMedia, Inc., formerly CC Media Holdings, Inc., is an American mass media corporation headquartered in San Antonio, Texas. It is the holding company of iHeartCommunications, Inc., formerly Clear Channel Communications, Inc.



The company owns more than 850 full-power AM and FM radio stations in the U.S., making it the country's largest owner of radio stations. The company has also been involved in internet radio and podcasting via the digital platform iHeartRadio

Between 2018 and 2020 about 28 Mercurys were installed at different iHeart Media radio stations throughout the United States.

### INSERTEL RADIO NETWORK. SPAIN

INSERTEL is a telecommunications company located and operating in the archipelago of the Canary Islands in Spain. The company is providing broadcast telecommunication services for Radio and TV stations, including the hosting of communications and IT systems for third party transmission centres.



In 2020, it acquired the Phoenix Control Multi software to centrally manage all the Phoenix audio codecs that they have.

### MEDIAPRO. SPAIN

Mediapro, is an international audiovisual group of Spanish origin. Its activity is the production of content for film and television, the management of sports rights and the management of audiovisual services and other associated services.



Through its technology subsidiary Unitecnic, they have acquired in 2020 ten Venus3 audio codecs for their production center in Barcelona, and the Phoenix Control Multi management application for the management of communications with AEQ audio codecs

### MEDIA BURST. PORTUGAL

Media Burst is a subsidiary of the Mediapro group in Portugal. In 2020, it acquired 4 Stratos audiocoders, and two licenses of the Phoenix Control Multi management application for the management of communications with AEQ audio codecs.



### MOVISTAR+. SPAIN

Movistar + is a Spanish pay television platform, owned by Telefónica. It broadcasts by fiber, ADSL, via satellite, and for mobile devices.



Telefonica Audiovisual Digital installed for Movistar+ three new Stratos audio codecs and the Phoenix Control Multi Software, to expand the system of 9 Stratos audio codecs for TV controls installed in 2017

### MVS RADIO. MEXICO

Leading radio group in the Mexican territory.

In 2020, it acquired 4 Mercury units for STL (studio-transmitter links). In addition, it is linked via public IP in PCM quality with Claro Sports for real-time transmission of the radio program



### NRM COMUNICACIONES

With almost 80 years of history, NRM Comunicaciones is one of the main radio groups in Mexico.

In 2020 they acquired 4 Mercurys to send specific programs to various of the most important cities in Mexico.



### ONDA MADRID. SPAIN

Onda Madrid is a public radio station in the Community of Madrid, Spain. The station is integrated into Radio Televisión Madrid.



It acquired, in 2020, the Phoenix Control Multi software to centrally manage all the Phoenix audio codecs that they have

### RADIO RENASCENÇA. PORTUGAL

Rádio Renascença is a radio station in Portugal that is managed by the Catholic Church. Its programming is generalist, focused on information and entertainment.



In 2020 they acquired 2 Venus3 and two Mercury audio codecs for their permanent network of IP links.

### RETEVISION - CELLNEX - ABERTIS- TRADIA. SPAIN

Retevisión is the main television and radio signal transport operator in Spain.

It acquired, in 2020, 96 Audiocodex Phoenix Venus 3 for its own network for the transport of radio and television programs, some for STL, others for distribution and even some for contribution



### RTC. CAPE VERDE

RTC or Radiotelevisión Caboverdiana is the public radio and television entity of Cape Verde. It was created in 1997 from the merger of the entities Radio Nacional de Cabo Verde and Televisión Nacional CaboVerdiana



In 2020 they acquired seven portable Alio audio codecs and three stationary Venus3 for broadcasting live reports.

### RTVE. SPAIN.

RTVE is the public broadcaster of the entire Spanish state. For television it uses the brand TVE and for radio RNE



In 2020, RNE purchased 85 Phoenix ALIO portable audio codecs and 20 Venus3 stationary audiocodex for his foreign correspondents.

Also 26 Venus3 stationary audiocodex more for Central Control at “Casa de la Radio” Prado del Rey, near Madrid.

In 2020, TVE purchased 1 AEQ Phoenix ALIO portable and 3 Mercury audio codecs for his Control Central Internacional in Torrespaña, Madrid.

### SER RADIO

Cadena SER is a Spanish, general and national radio station, owned by Grupo PRISA. It is the pioneer and most listened-to radio in the country, with around four million listeners along with music stations LOS40, LOS40 Classic, LOS40 Dance, LOS40 Urban, Cadena Dial and Radiolé. It can be tuned through DTT, AM, FM, DAB, streaming and applications.



They have acquired 4 audiocodex Venus3 for studios, contributions and broadcasting centers.

### TELEVISA. MEXICO

Televisa is one of the most important television channels in Mexico and Latin America.

Televisa has been continuously equipped with Venus3 and Alio audio codecs to cover various sports and entertainment events.



### UE TEKNIK AB

UE teknik AB is a Swedish technology and consulting company focusing on broadcast as well as audio, radio and data. They work with technical solutions for companies in the media industry such as radio stations and other companies that want to reach the public. They have specialist knowledge in sound, radio and data where they can offer customized solutions. They also work with TV production for events and sports.



In 2020 they acquired a pair of Mercury audio codecs to establish the STL of a local radio, and a "Phoenix Control Multi" software system to provide maintenance and remote connection service to their clients with AEQ codecs.

### VIDEO PROGETTI

Video Progetti S.r.l. is a leading Italian company which has been working for over 20 years in the distribution and integration of professional equipment for television, cinema and telecommunications.



Video Progetti has a fleet of television ob Vans. They acquired, through AEQ Exhibo's local partner, the Phoenix Control Multi app to establish and control their communications through audiocoders AEQ Phoenix Stratos

### RADIO VOZ. SPAIN.

It is owned by La Voz de Galicia, the most influential newspaper in the Northwest of Spain.



In 2020, it acquired an ALIO audiocodec for interviews and outdoor reports.

## VIDITEC. ARGENTINA .

Viditec is an Argentine company that provides technological solutions in professional audio and video, broadcast and professional measurement instruments. It has a specialized team for the integration of equipment together with engineering and services



It has supplied and commissioned a set of 10 ALIO and 5 Venus3 audio codecs for a world-class broadcast operator.

## VINH YEN CITY RADIO AND TELEVISION STATION. VIETNAM

*The Radio and Television Station of Vinh Yen City with AEQ technology*



The Radio and Television Station of Vinh Yen City (70 km from Ha Noi capital) has recently acquired Phoenix Mercury audiocoders for their broadcasting center.

The AEQ PHOENIX MERCURY is a full duplex, Stereo, IP audiocoder, allowing for connections in Stereo, Dual or Mono. The coder is exclusively controlled through a simple PC interface, allowing for the remote or local management of one or a series of audiocoders. Its very compact design. Mercury is a professional audiocoder that is compatible with the majority

[AEQ AudioCoders References](#)

of audiocoders from other manufacturers, since the unit was been developed in accordance with the international recommendation N/ACIP EBU Tech3326. The AEQ MERCURY supports SIP signalling and the most common encoding algorithms, including the proprietary AEQ LD and optionally AAC encoding modes.



The project was implemented and executed by Broadcasting Development Joint Stock Company, BDC, AEQ local partner in Vietnam

### XARXA DE EMISSORES MUNICIPALS VALENCIANES

The Xarxa d' Emissores Municipals Valencianes is an entity that groups together the municipal radio stations of the Valencian Country (Spain), there are already more than thirty agglutinated stations, jointly conducting a weekly program that started in June 2018 and continues currently.



They have acquired 13 Mercury audiocoders to link between them and for contribution, as well as 7 portable ALIO audiocoders for outside broadcasting.

## 2019

### 7 TV . TELEVISION REGION DE MURCIA

7 Televisión Región de Murcia is a Spanish free-to-air television channel, which is the main autonomous public channel in the Region of Murcia.



In 2019, through Dragó Broadcast Services, they acquired 3 audiocodecs Mercury for the coordination of their external services

**Televisión**  
REGIÓN DE MURCIA

### A3 MEDIA

Atresmedia Corporación de Medios de Comunicación, S.A. is a Spanish media group, present in the television, radio and cinema industries.



Atresmedia operates several channels through Atresmedia Televisión of which Antena 3 and laSexta are the flagship channels. In addition to these channels, operates Neox, Nova, Mega and Atreseries.

In 2019 A3MEDIA acquired 24 Venus 3 audio codecs to expand the equipment of its Central Control, integrating the audio from external communications into the broadcasting and coordination systems of its television studios.

### ACUSTIK NOTICIAS. MEXICO

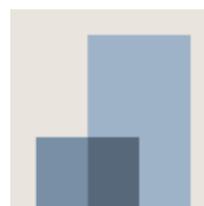
It is a new radio group with 40 radio stations where global content is generated in Mexico City.



In 2019 they acquired 2 Venus3 and 6 Mercury to send the main signal to the most important cities in Mexico.

### ANTENNA HUNGARIA / RINGNET. HUNGARIA

#### EUROPEAN MEN'S AND WOMEN'S WATER POLO CHAMPIONSHIPS 2020.



Antenna Hungária has a large fleet of OB vans and it was the designated host broadcaster for the European Men's and Women's Water Polo Championships. This competition was held in Budapest's Duna Arena 2020 from Jan. 14 to 26.



To be able to offer the highest broadcast quality audio for the unilateral commentary signals from the event, Antenna Hungária chose AEQ's Phoenix Alio portable IP audio codecs. Hungarian systems' integrator Ringnet supplied five units to service fully equipped commentary positions for the Rights-Holding Broadcasters at this edition of the championship.

The commentary service includes technical support to the RHBs, provided by Antenna Hungária in its role as host broadcaster. Such services usually involve operational and communication issues. AEQ, in turn, supported Antenna Hungária whenever required.

### **SPORTS BROADCASTING**

Several top-level broadcasters from Serbia, Croatia, Malta and Greece have taken up this practice. The links are mostly done by RTP protocol, and some broadcasters register the codecs on their own SIP server as an additional means of ensuring the link.

Antenna Hungária said the AEQ Phoenix Alio was effective in simple and flexible use and operation for the sports coverage. It is also able to cover other types of events such as concerts thanks to its stereo signal transmission capability. The broadcaster also uses it to broadcast political and social events.

Alio can be controlled remotely from an app, which allows it to be handled by inexperienced users. It is sometimes given to journalists for remote reporting and guest appearances in programs via public internet connections. The Alio is controlled from the station. It has a “help” button for requesting remote technical support.

Alio is ideal for sports broadcasting. First, it can work with two independent full-duplex circuits, one for program and one for coordination. Also, because it has equalization for the microphones, it can mix the international stereo sound. Furthermore, its compact and solid design optimizes it for use outdoors with users and equipment renters, who might not always be careful with the equipment.

To interface with broadcasters in other countries, Alio can connect to other codecs from most manufacturers thanks to the SIP communications protocol (N/ACIP Tech 3326 EBU standard). This avoids requiring visiting broadcasters having to send their own equipment to events.

When connecting Alio to another AEQ codec, users can take advantage of an exclusive set of tools that makes the establishment of communication and the control of the unit a simple task, including SIP and IP (RTP) connectivity, with a simplified connection tool called Smart RTP.

### ARET. ITALY

Aret is a European leader in systems integration for television and audiovisuals. It also owns a fleet of OB Van for television production with the highest technology.



In 2019 they acquired four Phoenix Venus3 audio codecs to provide OB Van with audio communications

### AXION- MEDIALATINA

Axión - Andalusian Broadband Network - was created in 1999. It merged with Medialatina, a TDF Group company that arises from Cadena Ser's broadcasting network.



In 2019 they acquired 7 Venus3 audio codecs to serve Cadena SER in Tenerife

## BASKETBALL WORLD CHAMPIONSHIP 2019. CHINA

### AEQ PHOENIX PORTABLE AUDIOCODECS AT THE THE BASKETBALL WORLD CHAMPIONSHIP 2019 15/10/2019

THE NANJING AND DONGGUAN VENUES OFFERS ALL COMMENTATORS THE AEQ PHOENIX MOBILE AS THE IP COMMENTATOR UNIT FOR THEIR UNILATERAL COVERAGE

The 2019 FIBA Basketball World Cup was the 18th edition of the international tournament that until 2010 was known as the Basketball World Championship. In this edition have played more than 30 teams and in addition, the first to be played following new fixtures and taking this tournament out of the years where other major events are held such as the FIFA World Cup or the Olympic Winter Games.



MediaPro was the designated service provider for the host broadcasting services at the Nanjing and Dongguan Competition Venues. Mediapro has selected the AEQ PHOENIX MOBILE IP Codec and Commentary Unit to equip all the fully equipped commentator positions at these Venues. AEQ technology offers the highest guarantees of quality and operation at major sporting events worldwide and in this line the Phoenix Mobile units selected provides great flexibility. The AEQ Phoenix Mobile unit supports up to 4

simultaneous commentators and their individual headset combinations, provides dual, full-duplex Stereo Communication for Program and Coordination and advanced user interface through a 3.5 "TFT colour screen.

The device has a fully configurable digital mixer (cross-points and sum buses) as well as analogue microphone and line input with their corresponding selectable Phantom power. The unit also provides dynamic input processing (DLP).



The AEQ Phoenix Mobile Commentary Units are fully adapted to the demands of outside broadcasting. It can be operated in a shoulder strap or on desktop thanks to its powerful optional Li-Ion battery. Its design is packed in a hard ABS cover and has a protective lid to avoid unwanted or accidental operation of its switches and encoders. The equipment is delivered with a practical carrying bag to hold the equipment itself and the minimum necessary accessories. This Codec is part of the AEQ Phoenix Family of Codecs and are compatible with most third-party equipment using IP and ISDN/ISDN interfaces: It supports SIP and the most widespread encoding algorithms and is fully compatible with the N/ACIP EBU Tech3326 recommendation. They also have optional communication modules for standard telephone lines and ISDN links.

AEQ provided Phoenix portable units and also de SIP server service for all the broadcasters in order to help in the remote communications problems where a complex 4G network like China Telecom ones has with lot of firewalls.

### BROADCAST EUROPE . DENMARK

Established in Denmark in 1989, as a local broadcast distributor and integrator. Broadcast Europe, has with offices in Germany and the UK, now grown to an international supplier of broadcast solutions for radio and TV.



In 2019 they acquired seven Mercury audio codecs to establish the STL links of various stations in Germany and Africa.

### CADENA COPE. SPAIN.

The Spanish COPE Radio Company is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.



In 2019 COPE acquired:

30 Phoenix ALIO audiocodec for outside broadcast and correspondents,

8 Phoenix Mercury audiocodec for studios, STL backup and audio contribution

8 Phoenix Venus3 audiocodecs for studios, STL and audio contribution

### CANAL BARÇA



Canal Barça is the television of the Barcelona Soccer Club.

Through Telefónica Servicios Audiovisuales they acquired two Stratos audio codecs to intercommunicate two Intercom matrices

### EBU. EUROVISION SERVICES, EUROPE

The European Broadcasting Union is the association that brings together the main television and radio stations in Europe. Among other activities, it shares audio and video signals at events of continental interest.



EUROVISION

In 2019, it acquired 2 Phoenix Venus Audiocodecs to expand its broadcast system for its worldwide AoIP contribution network Commentary and Coordination Audio Services. It has about 40 AEQ Codecs

## EUROPEAN GAMES MINSK 2019. BELARUS

### ISB REPEATS IN THE 2ND EUROPEAN GAMES IN MINSK 2019 WITH AEQ TECHNOLOGY 02/07/2019

The Venus 3 audiocoders becomes an ideal solution for the International Contributions of Commentary Program and return Audio. Also, the VENUS 3 is used to interconnect some Venues with the Commentary Unit AEQ Phoenix ALIO. The ALIO comes really handy when the Talents at the Commentary position are non-technical and need assistance



The Sport Broadcaster ISB was appointed as the Host Broadcaster for the Minsk 2019 2nd European Games and operations in Belarus are currently underway.

The European Games sees 4000 athletes from 50 European Countries competing in 15 different Sports and 23 disciplines. 11 venues, some with multiple FOP, plus an IBC is part of the Host Broadcast coverage that ISB is undertaking during these Games.

Esteban Galán, Head of Technical Operations at ISB, explains that the deployment of technical resources for the Broadcasting involve, among other things, AoIP Network interfaces, Intercom Systems, AudioCodecs and Commentary Units for the Audio and communications, and Broadcast Monitors for the production control.

The actual broadcast production of the Multilateral Signals is being accomplished with a total of 12 Mobile Units and over 200 Cameras including Specialty Cams, 8 ENG crews and a number of Fly-packs for the Venues with multiple FOP's. 4 MDS Channels are being produced + one bookable Unilateral Channel whenever required are also part of the resources deployed. 700 Broadcast Professionals are making sure that the signals are produced and are reaching the 190 worldwide Right Holders at the IBC and their Home Countries. In total we are producing over 600 hours of live coverage and close to a total of 800 hours of broadcast production.

In particular, and concerning everything related to communications, we have traditionally been relying on a lot of AEQ and Kroma by AEQ products, and for this occasion we are not making any exception. We feel really comfortable working with AEQ's equipment and their technical support.



The intercom system deployed by ISB is an AEQ Crossnet based system with Multi-channel AoIP with broadcast quality audio for the communication channels. A total of around 45 User panels have been installed, most of them in the IBC and a few at the most important competition venues. The Dante Network allows for the Crossnet to carry IFB's originating from basically any point in the network and can be anything from International Sound to Mixed zone feeds or Commentary Guides for the Off Tubes. Signals can be accessed through the NetBox 32 and 8 AD units and also the Netbox 4 MH's that have been deployed to be able to contribute with signals at Mic. level to the AoIP network for, for example, the Off-Tubes. Signalling in these have been integrated using the Studioboxes allowing for remote control via Classical and also Virtual GPIO's.

The Venus 3 being capable of connecting locally to AoIP multi-channel networks becomes an ideal solution for the International Contributions of Commentary Program and return Audio. Also, the VENUS 3 is used to interconnect some Venues with the Commentary Unit AEQ Phoenix ALIO.

The ALIO is in reality a portable AudioCodec with mixer functions and that allows for either local or remote control. This comes really handy when the Talents at the Commentary position are non-technical and need assistance.



Other Venues, such as the Main Stadium count on the Olympia 3 AoIP Multi-channel Commentary Unit. Olympia 3 is in essence a sound mixer and it can operate as an independent or standalone Commentary Unit or linked to a small, medium or large Commentary System. Connected to a Dante based audio IP routing system, receiving and sending audio from/to any device, that can be anything such as a mixing console or NetBox audio interface, a third-party console installed in a mobile unit, or any other type of device manufactured by any of the many manufacturers that are incorporating Audinate's Dante™ technology or even using AES67 protocol.



The Kroma by AEQ Broadcast Monitors Series 7000 in 18" and 24" for production quality control have, all been integrated in the ISB Fly-packs and in the Central Control in the IBC.

All in all, ISB is using quite a wide range of different products from AEQ and that are integrated for the Commentary Audio, Production Intercom and Quality Control Systems.

### ERT. GREECE

Ellinikí Radiofonía Tileóراسi is the public broadcasting corporation of Greece. It manages five television channels and eight radio stations.



In 2019, it acquired 7 Phoenix Venus3 and 2 Mercury AudioCodecs to expand its broadcast network system and 8 ALIO for outside broadcasting. It has about 40 AEQ Codecs.

### EMUN. SPAIN

EMUN FM is a small group of municipal radio stations in Catalonia, Spain, which is deployed to the localities of Albesa, Alfarràs, Alguaire, Almenar, Corbins and Torrefarrera.



Through the integrator Linx3 Consulting, they established the network of stations with two Mercury and two Venus3 audio codecs

### EUMOVIL. SPAIN

Eumovil is the subsidiary of the Mediapro group for the exploitation of OB Van.

In 2019, it acquired 8 Stratos and 9 Venus3 audio codecs for the communication upgrade of its mobile units.



### FEMENINA FM. CHILE

Radio Femenina is a station in the Concepción region, in Chile. Aimed at the family group, it programs music in Spanish and offers services to the community: job creation, buying, selling, renting and exchanging.



Radio Femenina has acquired Mercury and ALIO audio codecs for outdoor broadcasts

### HT MEDIA – FEVER FM

HT Media is an Indian mass media company based in Delhi, India. It has holdings in print, electronic and digital media. Fever FM is the fastest growing radio network in the country and the destination station for youth with listenership of over 27 million.



In 2019 they bought 32 units of the Venus 3 audio codec for their STLs across all of India

## INSERTEL CANARIAS. SPAIN

INSERTEL CANARIAS TRUSTS AEQ AUDIOCODECS 03/09/2019

### As network and client list expand company continues to choose AEQ codecs

HENRY REYES, TECHNICAL DIRECTOR, INSERTEL CANARIAS · AUG 8, 2019

Press release published at Radio World - September Issue

Insertel is a telecommunications company located and operating in the archipelago of Spain's Canary Islands, off the coast of Africa. The company provides broadcast telecommunication services for radio and TV stations, including the hosting of communications and IT systems for third-party transmission centers.



Both Carlos Medina as our project engineer and myself, Henry Reyes, representing the company's technical direction and operations, bet heavily on AEQ technology as part of our services for radio broadcasters. These services consist in transporting their program and contribution audio over IP Networks and especially over the internet.

From the start of the project we relied on AEQ Phoenix audio codecs. We have recently expanded our network with eight Phoenix Venus 3, seven Phoenix Mercury and three Phoenix Alio codecs. The units installed are dependent on our customers' needs, the type of connection that they require and also the type of link available.



Carlos Medina (left), project manager, and Henry Reyes, technical director working with AEQ Phoenix audio codecs and Phoenix Control software.

The Phoenix Alio has allowed us to expand our services while providing greater flexibility for our users, since it includes a mixer with five inputs (four mono and stereo line), headphone outputs and line output, all in the same unit, allowing us to provide services of outside broadcasts to our clients.

Phoenix Alio is a portable audio codec with physical interface that can also be controlled remotely, with a help request button and the smart RTP communication establishment protocol. These characteristics make it easier for us to monitor and control the services we provide.

We currently have point-to-point connections, multipoint connections and outdoor services.

Given the large number of codecs connected in our network, and its wide geographical distribution throughout the islands of the archipelago, from the company's perspective we considered it very important to have a centralized management system. The AEQ PhoenixControl IT platform has all the necessary tools for the network management.



From AEQ PhoenixControl we can monitor the status of all audio codecs connected, see alarms and events, even check the audio levels of input and output of each piece of equipment thanks to real-time precise data on screen, as well as having the ability to initiate and modify of any connection between remote teams in a fast and intuitive way.

On our Insertel network we normally use RTP communications for our point-to-point connections; however, the AEQ Phoenix codecs allow us to use any other common protocols to establish the connections. That can include SIP, either with or without a proxy server.

For connections requiring a SIP server, AEQ provides free of charge the use of their dedicated SIP server. This service is included with all of the codecs that AEQ sells and allows us to connect two codecs without the need for fixed IP addresses. Also, the AEQ audio codecs allow us to configure and modify the buffer to enable the correction of communication errors.

*Insertel trusts AEQ codecs - Radio World*

### INTERNATIONAL SPORTS BROADCASTING (ISB)



Founded in 1996 by Manolo Romero, ISB has served as the host broadcaster for many of the world's leading sporting events, including seven Olympic Games, six Paralympic Games, numerous World Championships and World Cups, and continental events such as the Pan American Games.

In 2019 ISB acquired two audiocodec alio to expand its permanent equipment for broadcasts

### IRIB. IRAN



The Radio Television of the Islamic Republic of Iran or RTVRII, better known by its acronym in English IRIB, is an Iranian media company that has a monopoly on radio and television services in Iran.

In 2019 they acquired 10 Venus 3 and 10 Mercury audio codecs to connect portable audio codecs for Outside broadcasting.

### LA FABRICA DE LA TELE. SPAIN



La Fábrica de la Tele is a Spanish television production company. Most of the production of La Fábrica de la Tele is directed to Mediaset Spain, although it has also produced for Telemadrid and TV3.

This production company uses an AEQ Crossnet 72 intercom system, whose external coordination is developed through three Venus3 audio codecs integrated in an Asterisk PBX

### MBC NETWORKS. SRI LANKA.

MBC Networks (Pvt) Ltd is a Sri Lankan media company which owns five national radio stations - Shakthi FM, Sirasa FM, Yes FM, Y FM and Legends FM. The company was established in 1993 by the Capital Maharaja conglomerate. In 2019, it acquired 5 AEQ Phoenix Stratos audiocoders for inter-station links.



### MEDIA BURST. PORTUGAL

Media Burst is a subsidiary of the Mediapro group in Portugal. In 2019 it acquired 8 Stratos and 12 Venus3 audiocoders.



### MEDIAPRO. SPAIN

Mediapro, is an international audiovisual group of Spanish origin. Its activity is the production of content for film and television, the management of sports rights and the management of audiovisual services and other associated services.



Through its technology subsidiary Unitecnic, they have acquired in 2021 three Stratos audio coders for their production centers

### MRT. MACEDONIA

MRT is the Macedonian public television and radio.



In 2019 acquired through VISION two Venus3 audiocoders and two Alio audiocoders for outside broadcasting.

### ONDA CERO RADIO. SPAIN

Onda Cero is a Spanish, generalist and national radio station. It is the third most listened to general radio station in the country with about 2 million listeners. It belongs to the radio group Atresmedia Radio, owned by Atresmedia. It has 220 FM and AM stations. In addition, it can be tuned through DTT, DAB, internet and application for mobile devices.



In 2019 it acquired 5 audiocoders Venus 3 and 14 audiocoders Mercury to expand its communications network.

### ONDA MADRID. SPAIN

Onda Madrid is a public radio station in the Community of Madrid, Spain. The chain is integrated into Radio Televisión Madrid,



It acquired, in 2019, 10 Audiocodexs Stratos for Studios, contribution and ISDN links, and 10 audiocodexs ALIO for outside Broadcasting.

### AEQ HAS TECHNICALLY UPDATED ONDA MADRID WITH NEW, IP-BASED, AUDIO MATRIX, STUDIOS AND COMMUNICATIONS

Onda Madrid moved to its current facilities in the Image City and performed all technical updates throughout more than 30 years counting with AEQ equipment, project designers and installation services. It has many mixing consoles, audiocodexs and even radio automation systems as part of their technical equipment inventory, studios and OB vans.

Now they have just finished the most important technical update since they moved to City of the Image more than 20 years ago, by incorporating an AEQ BC-2000 D ROUTER audio matrix with AoIP connectivity, updating all their digital mixing consoles in order to also support AoIP connectivity, and including a new AEQ SYSTEL IP 16 VoIP broadcast phone system with a pool of PHOENIX STRATOS audiocodexs -all integrated into a new software which unifies the control of broadcast telephony and audio routing for these audiocodexs.



Central Control Room equipment: ARENA audio engine, computers and audiocodexs

The communications system includes support for IP telephony and ISDN / IP audiocodexs, which are controlled by a unified software application developed just for this purpose.

On one hand, in the Central Control Room, there is an AEQ SYSTEL IP 16 system providing 16 voice over IP lines and supporting four AEQ SYSTELSET+ communications terminals (which include an IP phone and a touch screen running the communications control software). These have been installed in the Continuity Studio and the three recording ones. The 16 available phone lines can be dynamically assigned among these studios as required by each of them at any particular moment.

On the other hand, the system also includes 10 AEQ PHOENIX STRATOS dual audiocodexs supporting ISDN and IP connectivity. They can be assigned to the creation of permanent links to transmitter centers, to external studios and to OB vans.

Eight workplaces have been licensed for this unified communications software. It allows for the management of the audiocodexs and the IP broadcast telephony system from a single screen. This way, each user can operate the external links using audiocodexs and prepare the phone calls for a studio, –acting as a producer, supervisor or developing a combined function depending on his access rights–.



The deployment has been completed with ten AEQ ALIO external reporting systems with IP connectivity, each one provided in their own transportation case which also includes a battery system and router/modem for autonomous connectivity over 3G/4G mobile IP networks.

## OVERON. SPAIN.

SERVICIOS AUDIOVISUALES OVERON, part of Mediapro Group, is a leader of innovation technology for the deployment of Broadcast services all around the world.



Overon acquired 5 Stratos double IP / ISDN codec for its DSNGs

## PANAMERICAN GAMES. PERU

### AEQ TECHNOLOGY AT THE 2019 PANAMERICAN GAMES 10/09/2019



### The host broadcaster – Mediapro - selects AEQ Venus3 audiocoders and Olympia3 commentary units for the event

The 2019 Pan American Games, officially the XVIII Pan American Games, are an international multi-sport event that took place between July 26 and August 11, 2019 in Lima (Peru). More than 6500 athletes from the 41 countries of America participated in 39 sports. Immediately after these games were held, the Parapan American Games are held. Both events serve as a classification for the Olympic Games and the 2020 Paralympic Games.

AEQ supplied the designated Host Broadcaster – Mediapro, with 35 units of the OLYMPIA3 commentary units that were installed on the fully equipped commentary positions at all competition venues. The system as of whole was operating with Multi-channel AoIP Network in Dante-AES67 format and the Olympia 3 natively adopts this format and technology. This greatly simplifies the technical installations and renders the system with great dynamism that is required to adopt to rights-holding broadcasters (RHB's) interests for unilateral coverage and following the results of the competition.

[AEQ AudioCodecs References](#)

Also, the mixed Zones, Press Centres and the IBC were equipped with AEQ NETBOX Audio Interfaces. These units are ideal to convert Analogue and Digital Audio sources into AoIP Multi-channel flows and vice versa. This allowed connecting areas where the Audio sources and the return signals were Analogue or Digital to enjoy the same benefits as the rest with a minimum adaptation effort.

Finally, to send all the commentator audio signals from Lima to the RHB's home countries and to provide an audio return circuit, AEQ VENUS3 Dual Channel Audiocoders were installed. These Coders were connected via the Public Internet or dedicated IP Networks, depending on the infrastructure deployed for each Rights-holding Broadcaster

Logically, not only the audio equipment for this important event has been supplied by AEQ.



All the necessary remote control software to centralize the system control and technical support as much as possible was also deployed by AEQ.

Further, the essential spares for and event of this magnitude, including the necessary support personnel and the operational training for new operators helping to make the most of the deployed equipment, was also part of the supply by AEQ.

Head of AEQ's technical operations in Perú was Mr. Luis Hernandez whom was working in close collaboration with the local Mediapro Team.

### RADIO RIOJA. SPAIN

Radio Rioja is a regional head and one of the oldest stations of Cadena SER in Spain. 3 local stations work with Radio Rioja



In 2019 they acquired 2 Venus3 and 4 Mercury audio codecs to establish links between stations.

### RETEVISION - CELLNEX - ABERTIS- TRADIA. SPAIN

Retevision is the main television and radio signal transport operator in Spain.



It acquired, in 2019, 50 Audiocodex Phoenix Venus 3 for its own network for the transport of radio and television programs, some for STL, others for distribution and even some for contribution

### RRI. INDONESIA.

The Radio National Company “Radio Republik Indonesia” is the public broadcaster for Indonesia.



In 2019, as part of an equipment project for its IP audio links between regional and local stations, it purchased a batch of 14 stationary audio codecs AEQ Phoenix MERCURY, through the regional integrator Jaya Sentosa

### RTVE. SPAIN.

RTVE is the public broadcaster of the entire Spanish state. For television it uses the brand TVE and for radio RNE



In 2019, RNE purchased:

- 32 AEQ Phoenix ALIO portable audio codecs for its foreign correspondents..
- It also has acquired 12 licenses for the PHOENIX CONTROL MULTI application, to manage the AEQ audio codecs with which it works with the Central Control Room in Prado del Rey, Madrid.
- 12 VENUS3 stationary audio codecs to communicate with ALIO portable audio codecs.
- It also acquired another 26 stationary VENUS3 Audiocodex for the Prado del Rey Central Control Room

### RTE. IRELAND

RTE is Ireland's public television and radio. In 2019 acquired through Broadcast Video Services LTD 3 Venus 3 audiocodexs as an extension of the units they have in Television. In total now they must have about 9 units approximately.



They are used for sports. For example, in 2021 they were used for the soccer Eurocup and for Tokyo 2020.

### SEVEN MOUNTAINS MEDIA. US

They have a group of 25 hand--crafted radio brands across 67 signals and a team of creative people that are driven to make local content in Pennsylvania (US).



In 2019 they acquired six Venus 3 audio codexs to establish the STL links of various stations.

They have a group of 25 hand--crafted radio brands across 67 signals and a team of creative people that are driven to make local content in Pennsylvania (US).

In 2019 they acquired six Venus 3 audio codexs to establish the STL links of various stations.

### TELEVISA. MEXICO

Televisa is one of the most important television channels in Mexico and Latin America.

Televisa has been continuously equipped with Venus3 and Alio audio codexs to cover various sports and entertainment events.



### TELEVISA RADIO. MEXICO

Radio group with the participation of Grupo Prisa, with high-audience radio stations such as W Radio, Los 40 and La K Buena.



In 2019, it acquired a Mercury to link point to point with the Azteca Stadium for the transmission of the matches that take place there.

## TSF. PORTUGAL

TSF is one of the main Portuguese radio news stations. TSF is part of the Portuguese Global Media Group.



TSF acquired two Venus3 audiocoders in 2019 to complete the reception capacity of its CTP for IP mobile audiocoders.

## UE TEKNIK AB. SWEDEN

UE teknik AB is a Swedish technology and consulting company focusing on broadcast as well as audio, radio and data. They work with technical solutions for companies in the media industry such as radio stations and other companies that want to reach the public. They have specialist knowledge in sound, radio and data where they can offer customized solutions. They also work with TV production for events and sports.



In 2019 they acquired three Mercury audio codecs to establish a permanent link between various local stations

## TV AZTECA. MEXICO / US



TV Azteca is a Mexican media conglomerate. It is the second largest generator of content in Spanish in the world. It transmits 4 national television channels in Mexico, distributed through more than 300 local stations throughout the country, in addition to Azteca America Network, the Hispanic television network in the US, and Azteca Web

TV AZTECA has been a constant customer of AEQ audiocoders since its inception. Its latest acquisitions have been in the years 2017, 2018 and 2019 with 4 Stratos and 4 Venus3 to cover major sporting and entertainment events.



## AEQ AudioCodecs References

AEQ

Tel: (+34) 91 686 13 00 - Email: [aeqsales@aeq.es](mailto:aeqsales@aeq.es) - Web: [www.aeq.eu](http://www.aeq.eu)

### UNO TV. MEXICO

Television channel in México, broadcasts on private channels with a presence in Mexico and Latin America.



It has acquired 3 Alio audiocodecs since 2016 for links at high-caliber sporting events such as the Olympic Games.

In 2019, he acquired a pair of Mercurys to link his sports program with the MVS radio network.

### VIDEO PROGETTI. ITALY

Video Progetti S.r.l. is a leading Italian company which has been working for over 20 years in the distribution and integration of professional equipment for television, cinema and telecommunications.



Video Progetti has a fleet of television ob Vans. They acquired, through AEQ Exhibo's local partner, 20 units of audiocodec AEQ Phoenix Stratos, for its communications through audiocodecs AEQ Phoenix Stratos

### XARXA AUDIOVISUAL LOCAL. SPAIN

Xarxa maintains a terrestrial network of about 150 affiliated stations in the Barcelona area, in Spain, installed by Telefónica de España with a WAN accessed with IP Venus audio codecs.



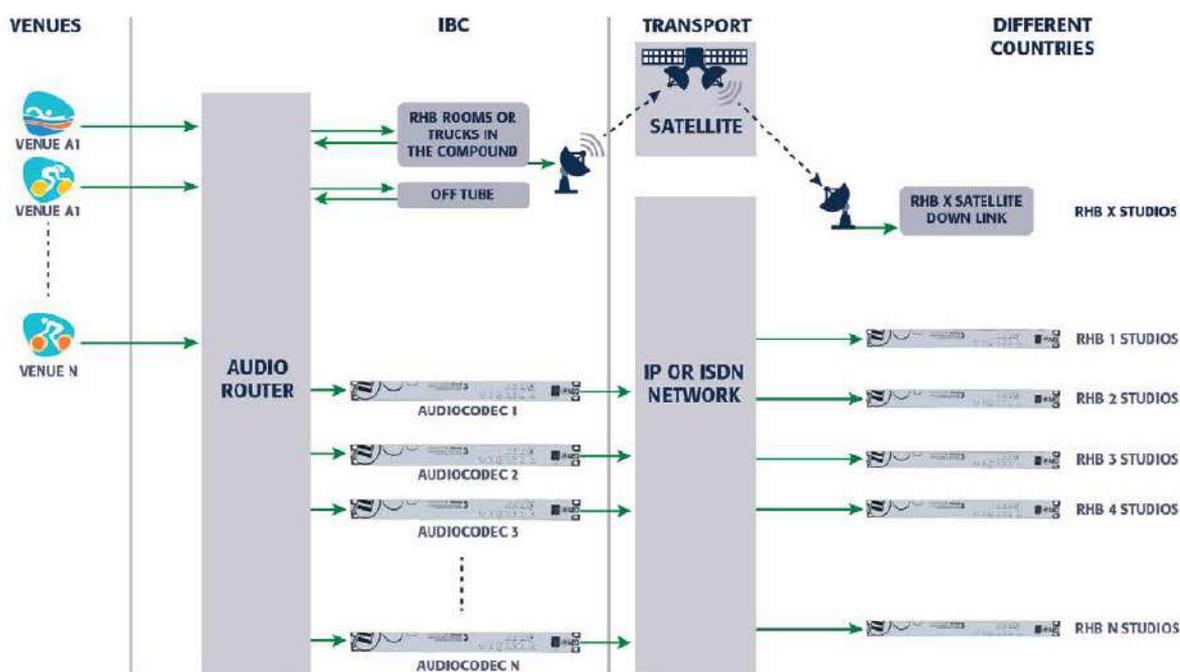
In 2019, through Telefónica, they acquired 10 Venus 3 audiocodecs and 3 Venus audiocodecs, to expand the network of affiliated stations.

## 2018

### 2018 EUROPEAN CHAMPIONSHIPS. UK /GERMANY

The EUROPEAN CHAMPIONSHIPS 2018 took place during the first 10 days of August 2018. This first European Championships issue has been held in two different main locations: Glasgow and Berlin, with another two sub-venues: Edinburgh for some swimming contests and Gleneagles for golf competitions.

20 VENUS 3 audiocoders have also been provided for external communications, allowing for the connection of the audio produced in the 80 OLYMPIA 3 Cus, with the remote destinations at the home countries of each radio & TV producer's participating in the event. AEQ VENUS 3 offers a great advantage, as it features integrated Dante connectivity, so in most cases the audio signal path can be 100% IP-based from the place it is generated to the destination it is distributed to, without any intermediate conversions.



### ARET. ITALY

Aret is a European leader in systems integration for television and audiovisuals. It also owns a fleet of OB Van for television production with the highest technology.



In 2018 they acquired two Phoenix Stratos audio codecs to provide OB Van with audio communications

### CADENA COPE. SPAIN.

The Spanish COPE Radio Company is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.



En 2018 COPE acquired:

- 130 Phoenix ALIO audiocodec for outside broadcast and correspondents,
- 2 Phoenix Mercury audiocodec for studios, STL backup and audio contribution
- 16 Phoenix Stratos audiocodecs for outside broadcast including ISDN lines.
- 5 Phoenix Venus audiocodecs for studios, STL and audio contribution
- 8 Phoenix Venus3 audiocodecs for studios, STL and audio contribution

### DYNAMO NATIONAL OLYMPIC STADIUM. BELARUS.

#### **150 AEQ CODECS DELIVER INTERNATIONAL CONTENT FROM MINSK**

#### ***A refurbishment project expands a stadium's media capabilities***

BY SERGIO SANCHEZ · PUBLISHED IN RADIO WORLD:

FEBRUARY 6, 2021

The author is R&D engineer at **AEQ** and was the technical coordinator for the project described.

This article appeared in Radio World's "**Trends in Codecs and STLs for 2020**" ebook.

At times it seems that "media" is everywhere. Smartphones provide immediate content from seemingly every corner humans visit. Drones and small GoPro-style cameras add another



[AEQ AudioCodecs References](#)

omnipresent dimension. The world is awash in multimedia material that can be turned into usable/sellable content.

Designers of new buildings already pack them with media-friendly digital infrastructure. Hoping to take advantage of an opportunity, many owners of aging, media-constrained venues are refurbishing their facilities to take advantage of the growing media world.

Dynamo National Olympic Stadium is the largest multipurpose stadium in Minsk, Belarus. It was reconfigured a few years ago so it could hold not only football matches but also athletics and other kinds of events, making into a venue with an international scope. It was reopened in December 2017, in time to setup for the 2019 European Games.

This international profile is reflected by the attendance of sports journalists from all over the world for live broadcasting. With that expanded mission, Dynamo National Olympic Stadium managers selected AEQ commentary system with 150 positions, each one equipped with an AEQ Olympia commentary unit. This allows more than 150 international TV and radio stations to broadcast events from Minsk simultaneously. Each of those can customize its language, style and media personalities.



The whole stadium offers Dante-AES67 AoIP multichannel technology provided by AEQ equipment. A powerful AEQ BC2000D audio matrix was installed, allowing for centralization and distribution of all the audio signals produced in the building.

In order for the commentary positions to communicate with the rightsholder stations or RHBs for each event, **150 AEQ Phoenix Stratos audio codecs were installed**. Each one is able to establish two bidirectional circuits between the station and the commentary units. One of them is normally used to carry the program and program feedback, while the other commonly operates as a coordination channel.

*Banks of AEQ Phoenix Stratos codecs installed at Minsk Olympic Stadium.*

[AEQ AudioCodecs References](#)

**AEQ**

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Each codec has front-panel controls; however, it would be chaos if each codec operator could take control of the system. Fortunately there is a control software available so AEQ's ControlPhoenix software application is being used to establish and supervise the up to 300 simultaneous connections that can be established with the 150 audio codecs.

AEQ Stratos is a suitable audio codec for this purpose because:

- It is a dual codec, so the same device can establish the program and coordination circuits.
- It is developed according to EBU N/ACIP standards, so it can communicate with most any third-party codec that may be in a broadcast facility inventory.
- Besides operating with IP networks, it can also establish connections using synchronous ISDN and even V.35 lines, allowing for an alternative path to establish a link.
- Stratos audio codec includes several state-of-the-art audio algorithms, such as Opus, the new standard for broadcast-quality audio communications, as well as legacy codecs for ISDN communications and guaranteed third-party compatibility, such as G.722 or MPEG2.
- It offers both analog and AES/EBU digital input/output connectivity with external synchronization capability, plus ancillary data transport, seamlessly emulating RS-232 protocol over the IP audio stream and GPI/O connections for external signaling.
- ControlPhoenix software provides full remote control of codec installations ranging from one to several hundred Phoenix family devices. Control is possible locally or from anywhere in the world, if so required, using an internet connection. This software application is provided for free with all AEQ Phoenix codecs while a license is only necessary to simultaneously manage more than two devices. It includes call list management, full configuration, real time VU meters, audio alarms, event logging, etc.

Eurovision Sport was the event's broadcasting partner. Eurovision used the Phoenix Stratos audio codecs in order to send the audio from commentators speaking all the different languages throughout infrastructure.

Some of the most important international sports events held in the remodeled Minsk stadium include the Second European Games and The Match Europe vs. USA track and field competition.

The Second European Game featured 4,000 athletes from 50 European countries competing in 15 sports.

For those games the real-time broadcasting production used a total of 12 OB vans and more than 200 cameras. Seven hundred broadcasting professionals ensured that the signals were properly produced and reached the 190 rights-holding broadcasters around the globe. More than 600 live and nearly 800 recorded coverage hours were produced.

The Match Europe vs USA, conducted in September 2019, gathered 300 world-class athletes who competed in 37 different track and field events.

## **EBU. EUROVISION SERVICES. EUROPE**

The European Broadcasting Union is the association that brings together the main television and radio stations in Europe. Among

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other activities, it shares audio and video signals at events of continental interest.

In 2018, it acquired 13 Phoenix Venus Audiocodexs to expand its broadcast system for its worldwide AoIP contribution network Commentary and Coordination Audio Services. It has about 40 AEQ Codexs.

### MEDIAPRO. SPAIN

Mediapro, is an international audiovisual group of Spanish origin. Its activity is the production of content for film and television, the management of sports rights and the management of audiovisual services and other associated services.



Through its technology subsidiary Unitecnic, they have acquired in 2018 six Stratos audio codexs for their production centers

### MEDIA BURST. PORTUGAL

Media Burst is a subsidiary of the Mediapro group in Portugal. In 2018, it acquired 13 Venus3 audiocodexs,



### PRD. THAILAND

The Thai State Department PRD (Public Relations Department) runs a Radio station.

PRD has acquired 4 Mercury and two Venus 3 audio codexs for PRD's STL.



### RADIO CERDANYOLA. SPAIN

Station that transmits from Cerdanyola del Vallès, in Catalonia, providing last minute informative content and entertainment through its social gatherings, musical spaces for all tastes.



Through the integrator Icot in Tarragona, they acquired four portable ALIO audio codexs. They use them for sporting events: Soccer, basketball, Hockey ...

### REDE RECORD PORTUGAL

Record FM is a Portuguese radio network. Its generating station is located in the municipality of Oeiras, district of Lisbon, and since 2017 it



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has had four branches in other regions of the country. It belongs to Grupo Record, a Brazilian media conglomerate that also controls RecordTV Europe.

Rede Record acquired two Mercury audio codecs to expand the distribution network to its local stations

#### RETEVISION - CELLNEX - ABERTIS- TRADIA

Retevisión is the main television and radio signal transport operator in Spain.

It acquired, in 2018, 34 Audiocodex Phoenix Venus 3 for its own network for the transport of radio and television programs, some for STL, others for distribution and even some for contribution



#### RRI. INDONESIA.

The Radio National Company “Radio Republik Indonesia” is the public broadcaster for Indonesia.

In 2018, as part of an equipment project for its IP audio links between regional and local stations, it purchased a batch of 25 stationary audio codecs AEQ Phoenix MERCURY, through the regional integrator Jaya Sentosa



#### RTVE. SPAIN.

RTVE is the public broadcaster of the entire Spanish state. For television it uses the brand TVE and for radio RNE

In 2018, RNE purchased 20 Phoenix ALIO portable audio codecs for his foreign correspondents.



Also 10 Venus3 stationary audiocodex more to connect the ALIOS against the Central Control at “Casa de la Radio” Prado del Rey, near Madrid.

And a Phoenix Control MULTI to manage the AEQ Audiocodex in this Central Control.

## RUSSIA FIFA WORLD CUP 2018. RUSSIA

AEQ PHOENIX AUDIOCODECS AT RUSSIA WORLD CUP 2018 27/06/2018

Many radio and TV stations around the world are using AEQ technology to establish their connections.



FIFA World Cup, every four years it is the highest-impact sports event during the summer.



Radio Jornal reporters displaced to Moscow, broadcasting the Football World Cup 2018 with AEQ's IP and analog audio codecs.

This is the first World Cup held in Eastern Europe and, for the very first time, the tournament takes place in two different continents: Europe and Asia. This supposes a great technical deployment for many broadcasters around the globe that travel to Russia to provide tight tracking of the evolution of all teams in the competition.

Apart from the many followers who have gone to the country to watch the live matches, a planetary audience will be supporting their teams' colors from home, thanks to the signals produced by the radio and TV broadcasters present there.

From the Russian National Radio VGTRK, counting with a large pool of AEQ PHOENIX stationary audiocoders as well as several production studios based on AEQ BC2000D digital technology, to large communication media such as Mexican TELEVISA or AZTECA Televisions, Spanish COPE and ONDA CERO radios, Brazilian GLOBO and RADIO JORNAL, or Indonesian REPUBLICA Radio... all of them are using AEQ audiocoders for their transmissions over IP and even ISDN lines, using PHOENIX family audiocoders: STRATOS, MERCURY, VENUS, MOBILE and ALIO.

This is the first World Cup held in Eastern Europe and, for the very first time, the tournament takes place in two different continents: Europe and Asia. This supposes a great technical deployment for many broadcasters around the globe that travel to Russia to provide tight tracking of the evolution of all teams in the competition.

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From the Russian National Radio VGTRK, counting with a large pool of AEQ PHOENIX stationary audiocoders as well as several production studios based on AEQ BC2000D digital technology, to large communication media such as Mexican TELEVISA or AZTECA Televisions, Spanish COPE and ONDA CERO radios, Brazilian GLOBO and RADIO JORNAL, or Indonesian REPUBLICA Radio... all of them are using AEQ audiocoders for their transmissions over IP and even ISDN lines, using PHOENIX family audiocoders: STRATOS, MERCURY, VENUS, MOBILE and ALIO.

## TELEMADRID

Telemadrid is a Spanish regional television channel that broadcasts in the Community of Madrid. It has general programming for all audiences, focused on information of proximity of the region. Its current headquarters is located in the City of the Image, in Pozuelo de Alarcón.



**TeleMadrid**

Telemadrid acquired 2 Stratos audio codecs for its Central Control, integrating the audio from external communications into the broadcasting and coordination systems of its television studios.

## TSA. SPAIN

TSA (Telefonica Servicios Audiovisuales) is a company of the Telefónica de España group that designs comprehensive turnkey projects including consulting, technical solution design, equipment supply, installation, integration, commissioning, training, coaching and support of the infrastructure provided.

*Telefonica*

**SERVICIOS  
AUDIOVISUALES**

They acquired two Stratos Audiocoders to equip their Mobile Unit

## TELEVISA. MEXICO

Televisa is one of the most important television channels in Mexico and Latin America.

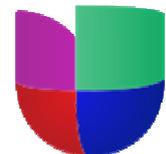
Televisa has been continuously equipped with Venus3 and Alio audio codecs to cover various sports and entertainment events.



**Televisa**

## UNIVISION

Univision is an American television network in Spanish, owned by Grupo Televisa and Univision Communications. The channel is mainly dedicated to the Spanish-speaking population of the United States.



**UNIVISION**

Univision is headquartered in Midtown Manhattan, New York, 2 and has its main studios, production facilities, and commercial operations based in Doral, Florida (near Miami).

UNIVISION acquired three Venus 3 audiocoders to establish a permanent link between its headquarters in Doral and TV Azteca in Mexico.

## VAV. SPAIN

VAV began offering television production services and was complemented with broadcast engineering. Build and explode sets, and OB Vans for TV



They acquired two Phoenix Venus 3 to give audio communication to one of their mobile units connected internally through Dante.

## VGTRK . NATIONAL RADIO OF RUSSIA

### VGTRK DEVELOPS ITS LOCAL STATIONS USING FORUM IP CONSOLES AND STRATOS CODECS



By Mike Efinov

TRACT Lead Manager for VGTRK Projects

VGTRK is the Russian public radio-television broadcaster. It currently manages five radio stations, several TV channels, a digital TV platform and several video-on-demand services. It has also been an active member of the EBU (European Broadcasting Union) since 1993.

Back in 2010, it started the installation of Moscow headquarters and the regional headers basing on AEQ BC2000 D central audio routing systems and AEQ ARENA digital mixing consoles.

Now, when the renewal has been expanded from the production centers to the entire network, involving hundreds of studios across the whole Russian territory, the systems have been resized in a more cost-effective way, which suits local and regional stations better, but when choosing equipment and conditioning the spaces, the transcendence of the service they provide to the society has always kept in mind.

The typical production center's structure comprises:

The Master Control Room, where broadcasting is supervised and coordinated by means of an Intercom with the different local and remote technical areas: studios, News Room, Regional and Central headers and External News Room, where 8 to 20 work stations are established for the editors. The edition Manager has an Intercom terminal in order to coordinate with Emissions.

Server Room. Here is where the UPS guaranteeing power supply, as well the playout audio system server, the STRATOS dual audiocodec -communicating to the headers via IP or synchronous ISDN lines as a backup-, the local network elements and audio connection panels, etc. are located.

The Control room has a very simple and clean structure. At the center of the top shelf, the AEQ Forum mixing console can be found, together with the operator's microphone, headphones, two display monitors for the audio playout system (and other uses), and the GENELEC audio monitors. At the right, the coordination intercom Terminal, and at the left, a precision VUmeter system and other indicators are located.

The booth viewing window -which has moderate dimensions to guarantee acoustical isolation-, and just over it, the ON AIR indicator can be found over the table. Under the table, the ON AIR playout computer CPUs are located in a rack. On the other hand, Inside the booth a desk with microphones, headphones, signaling box, a computer for the main reporter, and an ON AIR sign, can be found.

Most of the studio equipment (playout audio System, precision VU meters, ON AIR signs, audio panels, etc.) are manufactured in Russia and provided by TRACT. Only the microphones, headphones, GENELEC monitors, AEQ FORUM mixing consoles and AEQ STRATOS codecs are imported, and they were selected mainly due to their high quality and performance, proven in hundreds of installations.

In particular, AEQ FORUM digital mixing console, which we installed in 12-fader configuration, is very well appreciated due to its modularity, processing capability, ease of operation and IP connectivity.

AEQ VENUS codecs were formerly installed. Now we install STRATOS model, which main advantage is the availability of a ISDN backup and a local control panel, so control from a remote PC is no longer mandatory.

TRACT local provider's capabilities and experience is supported by a responsive service from AEQ, the main provider of the foreign pieces of equipment, so the problems that may arise -which are unavoidable in such a large network, with several hundreds of studios and central controls- got solved with agility and efficiency.

Moscow header and the main regional stations where installed using AEQ BC 2000 D routers and AEQ ARENA mixing consoles.



## XARXA AUDIOVISUAL LOCAL. SPAIN

Xarxa maintains a terrestrial network of about 150 affiliated stations in the Barcelona area, in Spain, installed by Telefónica de España with a WAN accessed with IP Venus audio codecs.



In 2018, through Telefónica, they acquired 10 Venus 3 audiocodecs and 2 Venus audiocodecs, to expand the network of affiliated stations.

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## 2017

### A3 MEDIA

Atresmedia Corporación de Medios de Comunicación, S.A. is a Spanish media group, present in the television, radio and cinema industries.



Atresmedia operates several channels through Atresmedia Televisión of which Antena 3 and laSexta are the flagship channels. In addition to these channels, operates Neox, Nova, Mega and Atreseries.

A3MEDIA acquired 38 Venus 3 audio codecs to equip its Central Control, integrating the audio from external communications into the broadcasting and coordination systems of its television studios.

### ARET. ITALY

Aret is a European leader in systems integration for television and audiovisuals. It also owns a fleet of OB Van for television production with the highest technology.



In 2017 they acquired two Phoenix Stratos audio codecs to provide OB Van with audio communications

### CADENA COPE. SPAIN.

The Spanish COPE Radio Company is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.



En 2017 COPE acquired:

45 Phoenix ALIO audiocodec for outside broadcast and correspondents,

23 Phoenix Mercury audiocodec for studios, STL backup and audio contribution

5 Phoenix Venus audiocodecs for studios.

### INSERTEL RADIO NETWORK. SPAIN

INSERTEL is a telecommunications company located and operating in the archipelago of the Canary Islands in Spain. The



company is providing broadcast telecommunication services for Radio and TV stations, including the hosting of communications and IT systems for third party transmission centres.

In 2017, it acquired 3 ALIO audio codecs to provide specific broadcasting services, 7 Mercury and 8 Venus3 to establish fixed links to client radio stations.

### MBC NETWORKS. SRI LANKA.

MBC Networks (Pvt) Ltd is a Sri Lankan media company which owns five national radio stations - Shakthi FM, Sirasa FM, Yes FM, Y FM and Legends FM. The company was established in 1993 by the Capital Maharaja conglomerate. In 2017, it acquired 2 AEQ Phoenix Stratos audiocodecs for inter-station links.



### MEDIA BURST. PORTUGAL

Media Burst is a subsidiary of the Mediapro group in Portugal. In 2017 it acquired 5 Stratos audiocodecs.



### MEDIASET SPAIN

Mediaset España, is a Spanish communication group, founded on March 10, 1989 by the Italian company Mediaset, controlled by the Fininvest group. , owned by Silvio Berlusconi. Its activity is essentially focused on the production and exhibition of television content. It currently operates the television channels Telecinco, Cuatro, Factoría de Ficción, Boing, Divinity, Energy and Be Mad, as well as Telecinco HD and Cuatro HD.



MEDIASET Spain acquired 35 Venus 3 audio codecs to equip its Central Control, integrating the audio from external communications into the broadcasting and coordination systems of its television studios.

### MOVISTAR+. SPAIN

Movistar + is a Spanish pay television platform, owned by Telefónica. It broadcasts by fiber, ADSL, via satellite, and for mobile devices.



Telefonica Audiovisual Digital installed for Movistar+ nine Stratos audio codecs for TV controls

### ONDA CERO RADIO. SPAIN

Onda Cero is a Spanish, generalist and national radio station. It is the third most listened to general radio station in the country with about 2 million listeners. It belongs to the radio group Atresmedia Radio, owned by Atresmedia. It has 220 FM and AM stations. In addition, it can be tuned through DTT, DAB, internet and application for mobile devices.



In 2017 it acquired 3 audiocodecs Venus 3 and 2 audiocodecs Mercury to expand its communications network.

### TELEVISA. MEXICO

Televisa is one of the most important television channels in Mexico and Latin America.

Since 2017 has been continuously equipped with Venus3 and Alio audio codecs to cover various sports and entertainment events.



### TOP RADIO. SPAIN

TOP Radio 97.2 is the station in Madrid of the Mexican group MultiMedios. Its characteristic romantic song programming and the great coverage of its transmitter make it very popular in the capital of Spain.



Top acquired 2 Stratos audiocoders to use their ISDN lines and upgrade their use to IP when they disappear.

### RADIO AMALIA. PORTUGAL

Radio Amalia is a station in Lisbon specialized in Fado music

They acquired three Venus3, to establish point-to-point links and to support external broadcasts. For these, they have provided an ALIO portable audio codec.



### FADO IN THE ATRIUM, AND THE PUBLIC AT HOME WITH ALIO CODECS

**Amália Rádio of Lisbon broadcast live the acts of the declaration of fado as a cultural heritage of humanity**

Fado is the most internationally known expression of Portuguese music. The most popular themes in Fado are nostalgia, jealousy, absence, melancholy, passion or short stories of everyday life in typical Portuguese neighborhoods. Amália Rodrigues popularized Fados with letters from great poets.

Fado has been declared by UNESCO as Intangible Cultural Heritage of Humanity. In these times of confinement due to Covid-19, recitals have been held in the lobby or Atrium of the building of the headquarters of the Junta Freguesia de Santa Maria Maior in Lisbon, without public, on Mondays, Wednesdays and Fridays, starting on April 27, 2020.

Rádio Amália is a Portuguese radio station that transmits from Lisbon on the FM 92.0 frequency, and from Setúbal on the FM 100.6 frequency. It broadcasts 24 hours a day, and its programming consists exclusively of Fado. The station's name pays tribute to Amália Rodrigues, the famous Portuguese Fado singer who died about 20 years ago.



Given the circumstances, Rádio Amália has become the link between Fado fans, who have joyfully received UNESCO recognition, and these celebratory concerts, which they unfortunately cannot attend. For this reason, they have organized a simple and effective technical deployment.

The live sound console connects to an AEO ALIO audiocodec that transmits live through a 4G link with a Huawei router that connects to the station with an AEO Venus 3 audiocodec. The broadcast is carried out in stereo through the OPUS algorithm. To achieve a transmission with transparent audio quality, the binary rate of 128 kbps is used. The high efficiency of this algorithm divides by 18 the need for a bit rate, with no apparent loss in quality.

The deployment is complemented by an audio and video recording system for archiving and publishing the concerts.

The engineer Mr Luís Montez, CEO of the Rádios Música No Coração Group, head of Rádio Amália said:

In this period that we are going through, we cannot forget about culture. In this sense, we are intensifying programming with access to the digital media that we have on our radio stations, to maintain the proximity of artists to the public, combat loneliness and keep our audience permanently informed. We are reinforcing the investment in remote production of audio and video over IP. We adopted DANTE technology for the entire group for studios, due to the stability and versatility it offers with the entire Dante AEO equipment ecosystem. For outdoors, ALIO audiocodecs ensure excellent transmission quality for stereo music and voice with the OPUS encoding algorithm. One feature that I consider very important is ALIO's simplicity of operation even when we use it with two different destinations (2 streams) simultaneously.



António Piçarra, Sales Manager of AEQ for Portugal, Brazil and PALOP (African Countries of Portuguese Official Language), said "For AEQ, it is a great pride to participate in this initiative that celebrates the Portuguese culture, even in times of social isolation like the ones we are going through because of this terrible pandemic"

### IRIS FM. PORTUGAL

Iris FM is an international online radio station playing a fresh Local Music, Politics format for a global audience. Iris FM are an independent station for the online generation, connecting those who already have a strong connection with Porto Alto, Portugal.



They acquired three Mercury audiocodescs, to establish point-to-point links

### RADIO MAIS. ANGOLA

Radio Mais is an Angolan radio network with stations in Luanda, Benguela, Huambo and Huila



They acquired two stationary Venus3 audio codecs and 4 portable ALIOs for their outdoor broadcasts.

### RADIO MARCA.

Radio Marca is a Spanish radio network that broadcasts sports information 24 hours a day. The station belongs to Grupo Unidad Editorial, which in turn belongs to the Italian group RCS MediaGroup.



It acquired 8 AEQ Phoenix Mercury audiocodescs for audio contribution from its affiliated stations.

### REDE RECORD PORTUGAL

Record FM is a Portuguese radio network. Its generating station is located in the municipality of Oeiras, district of Lisbon, and since 2017 it has had four branches in other regions of the country. It belongs to Grupo Record, a Brazilian media conglomerate that also controls RecordTV Europe.



Rede Record acquired six Venus3 audiocodescs to create the distribution network to its local stations

### RETEVISION - CELLNEX - ABERTIS- TRADIA

Retevisión is the main television and radio signal transport operator in Spain.

It acquired, in 2017, 5 Audiocodex Phoenix Venus 2 and 8 Audiocodex Phoenix Venus 3 for its own network for the transport of radio and television programs, some for STL, others for distribution and even some for contribution.



The Venus 3 audiocodex was designed in 2017 to meet the strict requirements of Retevisión and since then it has been a device in high demand due to its great capacity for transporting audio and data and operational reliability.

### RRI. INDONESIA.

The Radio National Company “Radio Republik Indonesia” is the public broadcaster for Indonesia.



In 2017, as part of an equipment project for its IP audio links between regional and local stations, it purchased a batch of 17 stationary audio codexes AEQ Phoenix MERCURY, through the regional integrator Jaya Sentosa

### RTVE. SPAIN.

RTVE is the public broadcaster of the entire Spanish state. For television it uses the brand TVE and for radio RNE

In 2017, RNE purchased several AEQ audiocodexes and a Phoenix Control MULTI to manage the AEQ Audiocodexes in this Central Control.



### TSF. PORTUGAL

TSF is one of the main Portuguese radio news stations. TSF is part of the Portuguese Global Media Group.



TSF acquired three Venus3 audiocodexes in 2017 to have reception capacity in its CTP for mobile IP audiocodexes.

### UNIVISION

Univision is an American television network in Spanish, owned by Grupo Televisa and Univision Communications. The channel is mainly dedicated to the Spanish-speaking population of the United States.



UNIVISION <sup>63</sup>

AEQ AudioCodexes References

AEQ

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Univision is headquartered in Midtown Manhattan, New York, 2 and has its main studios, production facilities, and commercial operations based in Doral, Florida (near Miami).

UNIVISION acquired two Mercury audiocoders to establish a permanent link between its locations.

#### **VOZ RADIO NETWORK. SPAIN.**

It is owned by La Voz de Galicia, the most influential newspaper in the Northwest of Spain. In 2017, it acquired 10 AEQ Phoenix Mercury and two Venus3 audiocoders for inter-station links.



## 2016

### ARCHI. CHILE



The Chilean Radio Broadcasters Association (ARCHI) is a Chilean trade association that groups together radio broadcasting stations.

Between 2014 and 2016 they acquired 16 Mercury audio codecs to facilitate their associates updating their STL links.

### SNRT. MOROCCO.

The Radio and Television National Company “Société nationale de radiodiffusion et de television”, SNRT; is the public broadcaster of Morocco.



In 2016, as part of a technological upgrade project, he purchased 10 AEQ Phoenix Mobile portable audio codecs, and 6 AEQ Phoenix Stratos, for his field reports and equipment for OB Van.

### RTVE. SPAIN.

RTVE is the public broadcaster of the entire Spanish state. For television it uses the brand TVE and for radio RNE.



In 2016, RNE purchased 10 AEQ Phoenix ALIO portable audio codecs for his foreign correspondents and 4 Venus3 stationary audiocodec for the Central Control Room.

### RTVGA. SPAIN.

RTVGA is the public radio and television organization of the Galicia region in north-western Spain.



In 2016, as part of an Outside Equipping Project, he purchased a batch of 10 AEQ Phoenix ALIO portable audiocodecs and 2 Phoenix Venus rack audiocodecs for his field reports.

### RRI. INDONESIA.

The Radio National Company “Radio Republik Indonesia” is the public broadcaster for Indonesia.



In 2016, as part of an equipment project for its IP audio links between regional and local stations, it purchased a batch of 19 stationary audio codecs AEQ Phoenix MERCURY and two Phoenix VENUS, through the regional integrator Jaya Sentosa.

[AEQ AudioCodecs References](#)

### CADENA COPE. SPAIN.

The Spanish COPE Radio Company It is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.



COPE acquired 17 Phoenix Mercury, 7 Phoenix Stratos and 2 Phoenix Venus audiocodescs in 2016

### TELEVISA. MEXICO

Televisa is one of the main radio and TV networks in Mexico.

In 2016, it acquired, through AEQ KROMA Méjico Company, 6 Audiocodescs Phoenix Mercury to transport the program between studios and broadcasting centers.



### RADIO VOZ. SPAIN.

It is owned by La Voz de Galicia, the most influential newspaper in the Northwest of Spain. In 2016, it acquired 10 AEQ Phoenix Mercury audiocodescs for inter-station links.



### AIR. INDIA.

AIR, (All India Radio) is the state-owned public radio and television broadcaster for India.

In 2016, as part of an equipment project for its IP audio links between stations, it purchased a batch of 16 stationary audio Phoenix STRATOS, through the local integrator Eagle Technologies



### CAAMA. AUSTRALIA.

CAAMA stands for Central Australian Aboriginal Media Association. It has a network of radio stations

In 2016, they acquired 7 AEQ Phoenix Mercury audiocodescs through the local integrator Wireless Components to establish links between their central studios and some local stations distributed throughout the Australian territory.



### MINISTRY OF INTERIOR. TURKEY.

Turkish Ministry of the Interior manages a broadcasting network

In 2016, it acquired, through the Ideapro integrator, 6 Audiocodex Phoenix Mercury for program transport.



### MANAUS FM. BRAZIL

It is located in the middle of the Amazon jungle.

In 2016, it acquired, through the Biquad integrator, 6 Audiocodex Phoenix Mercury to transport the program between studios and broadcasting centers.

### RADIO BANDEIRANTES. BRAZIL

Radio Bandeirantes, is one of the main radio networks in Brazil.



In 2016, it acquired 6 Audiocodex Phoenix Mercury and 4 Audiocodex Phoenix Venus for stations in the Sao Paulo area, to transport the program between studios and broadcasting centers.

### RETEVISION. SPAIN

Retevisión is the main television and radio signal transport operator in Spain.

It acquired, in 2016, 18 Audiocodex Phoenix Venus 2 and a Audiocodex Stratos for signal transport between studios and radio transmitters



### EBU. EUROVISION, EUROPE

The European Broadcasting Union is the association that brings together the main television and radio stations in Europe. Among other activities, it shares audio and video signals at events of continental interest.

In 2016, it acquired 3 Phoenix Venus Audiocodex to expand its broadcast system for major sporting events



### ERT. GREECE.

The Hellenic Broadcasting Corporation (Greek: Ελληνική Ραδιοφωνία Τηλεόραση, Ellinikí Radiofonía Tileóراسι or ERT (EPT) is the state-owned public radio and television broadcaster for Greece.



In 2016, as part of an equipment project for its IP audio links between stations, it purchased a batch of 28 stationary audio Phoenix VENUS 3, through the local integrator Calavitis

### A3 MEDIA. SPAIN

A3 Media, is one of the main TV networks in Spain. Some of its products are Antena 3, La Sexta, Nova, Mega, Neox, A3 Series, Onda Cero, Europa FM and Melodía FM.



In 2016, it acquired 6 Audiocodex Phoenix Stratos Audiocodex for audio and coordination services in TV.

### SPORT FM. RUSSIA

It is a prestigious Moscow radio specialized in sports. Through the local integrator Trackt, it has acquired 3 Stratos audiocodex to transport programs and broadcasts of sporting events



### LA XARXA AUDIOVISUAL LOCAL. SPAIN

#### DEVELOPMENT OF A BIDIRECTIONAL AoIP TRANSPORT SYSTEM FOR RADIO COMPANIES

The system substitutes a satellite-based unidirectional broadcast system and provides full-duplex audio to more than 125 stations in a flexible way and allowing national, static-regional or occasional local multicast groups.



*By Xavier Cabestany, Head of Technical Infrastructures at La Xarxa Audiovisual Local*

#### 1. Introduction

La Xarxa Audiovisual Local (XAL) is a public audiovisual production entity, created by the Deputation of Barcelona. It generates contents of local nature. XAL counts with its Central Office in Barcelona and more than 125 associated radio stations. XAL provides its contents to these stations to combine them with local productions. The stations contribute with signals to the main station to create programs together.

La Xarxa has been distributing the common signal by means of a satellite-based link. In 2015, it was decided to migrate to an IP network, which XAL has contracted to Telefónica. AEQ has provided audiocodex and control software.

Nearly 150 Phoenix Venus audiocodex have been supplied, and software has been developed for:

[AEQ AudioCodex References](#)

- Control and monitoring of all audiocoders from any PC connected to the Internet.
- Program connection and disconnection events
- Integration of the control with an existing audio matrix.
- Create and activate local or regional broadcast groups.
- Manage point-to-point contribution connections from the central location.

## **2. Project requirements and implementation**

### **Broadcasting of the Main program:**

Satellite links are replaced by terrestrial IP connections using Phoenix Venus IP audiocoders, through multicast groups to which all local stations are subscribed. The audiocoders "MAIN" and "BACKUP" send the audio to multicast IPs that in turn broadcast the audio to the remote devices subscribing to the multicast.

There is a Phoenix VENUS audiocoder at each local station. Channel 1 receives the multicast audio, with OPUS encoding, obtaining a stereo channel 20Hz-20KHz with very low latency.

The existing broadcast automation system generates GPOs for the multicast VENUS (MAIN and BACKUP) GPI which sends to the selected audiocoder, transporting orders to switch the remote audio source or console control.

The control server continuously monitors the status of MAIN and BACKUP coders and if the active fails, it resets the connection to the other. The audio input is distributed to both units from the matrix.

### **Regional and Local Multicast Groups**

There are multicast groups of reduced size and limited duration. Another 5 dual-channel VENUS Audiocoders are programmed for this purpose.

There are also groups with fewer receivers or subscribers, where the "main station" is a local station sharing its program feed.

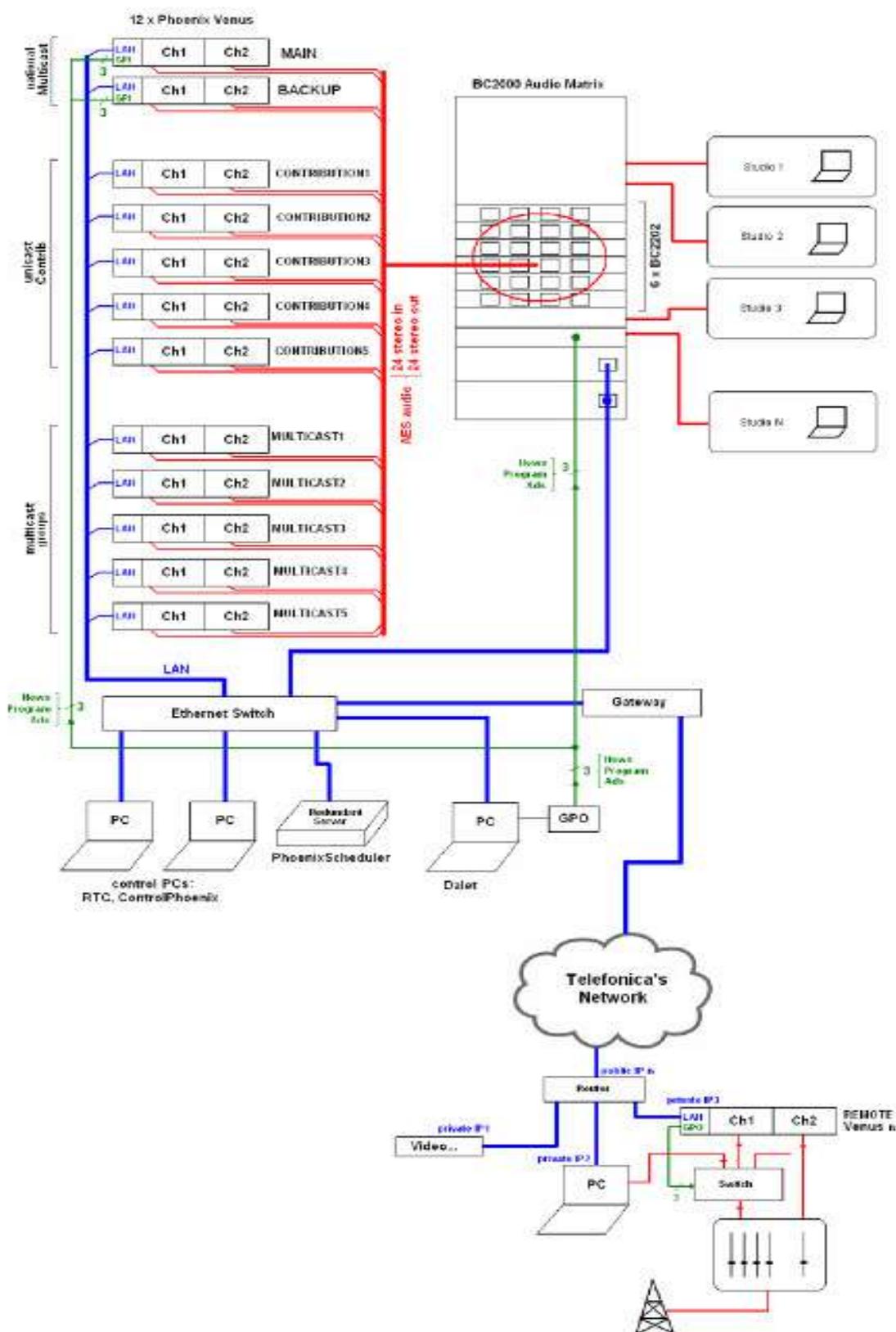
In both cases, these groups are controlled with a scheduling software that creates groups, defines the time slots, and automatically controls the connections of any of the involved audiocoders: If an audiocoder is switched from the main group to a regional or local group, once finished its connection, it is automatically deactivated and returns to its previous state and continues receiving the main program.

### **Remote contributions**

Channel 2 of the local VENUS makes contribution towards the main station. For this, in the main station there are 5 VENUS for "CONTRIBUTION" each with 2 channels. This allows for up to 10 simultaneous contributions from different associated stations. These 10 bidirectional stereo channels are connected to the matrix. They connect to the studios so as to contribute to program or provide coordination channels. Calls are manually placed from central control in the main station using a phone book and SmartRTP to establish the communication.

### 3.- Hardware architecture

See figure (only one remote station is represented):



- A set of 12 VENUS audiocodexes are installed at the main station. Each provides two stereo bidirectional channels:
  - MAIN and BACKUP both transmit the main program.
  - MULTICAST1..5 allow for the broadcasting of alternative programs to groups of remote locations.
  - CONTRIBUTION1..5 allow for the reception of point-to-point connections from any remote end to elaborate programs from Barcelona. The return channels (unicast) are used as N-1 feedbacks or for coordination from each contributing local station.
- All codexes in the System (both in central station and remote locations) are on the same IP logical network - wiring shown in blue. The codex control service reaches all of them and the AEQ BC2000D audio switching matrix, to execute salvos.
- All audio connections in the central office (represented in red) are digital AES/EBU
- The ControlPhoenix application is installed on management PCs. On the server, and in addition to this, the control service is installed. In the studio workstations, an application for control of contributions has been installed - XAL Control.
- The automation system GPOs (Disconnections, Bulletins and Programs), represented in green, are connected to the BC2000D matrix, and multicast audiocodexes (MAIN and BACKUP).

#### 4. Project development

The system has been a coordinated development between Xarxa, Telefónica, and AEQ. The applications were specifically developed for the purpose and customizations of already existing ones, debugged in an operational model built at AEQ and then migrated to the server of the Xarxa.

Telefónica deployed and configured the network infrastructure. They provided AEQ a Remote User Access to connect from AEQ's offices in Madrid for installation, configuration, verifications, etc.

Once the definitive server was installed in Barcelona, all the VENUS AudioCodexes are being distributed and deployed and taken into service on their remote locations.



*Central Control at Barcelona Matrix and codexes*

## 5. Conclusions

In February 2017, more than 85 stations are already connected. The savings with regards to operating costs compared to the previous satellite infrastructure is considerable and, in addition the network is benefitting from greater flexibility, very low latency and fully bidirectional links.

It has been necessary to deal with challenges concerning the traffic distribution (IP multicast), QoS and bandwidth management, centralized control of all equipment and management tools, adaptation of the software to specific needs, documentation and configuration, training etc.

Using the OPUS algorithm, Phoenix VENUS audiocodecs provide a clean audio signal with practically transparent quality and no data/audio loss. The software is being used on a daily basis and, together with the integration with the BC 2000D matrix, allows us great flexibility to produce and broadcast programs with the associated stations

### CLARO SPORTS. MEXICO.

#### GREAT SUCCESS FOR CLARO SPORTS IN RIO OLYMPICS WITH AEQ AUDIOCODECS AND OTHER EQUIPMENT



Claro Sports had a very successful operation of the Olympic Games in Rio de Janeiro. With an audience in 17 countries and a potential market of 400 million people and 380 million smartphones in Latin America, Claro Sports deployed in Rio to produce its unilateral coverage based off OBS' multilateral production. The signals of the finished product were

provided to all the different distribution platforms for the 17 countries where America Movil had obtained broadcasting rights.

Also, Claro Sports undertook to provide the commentary audio channels in Spanish language for OBS' multilateral coverage services; Multi-Channel Distribution Service (MDS - encrypted satellite subscription service for Rights Holding Broadcasters) and Olympic Video Player (OVP - video player multi-platform allowing users to view video on demand and live through their mobile devices).

Claro Sports' deployment included an AEQ ARENA / BC2000D audio routing and mixing system for signals originating at the venues as from 13 of the OBS off-tube cabins in the IBC. These latter were providing OBS' OVP services with Spanish commentary. Claro Sports used a full bandwidth AEQ ConeXia intercom system

Additionally, Claro Sports installed two Off –Tube booths within its premises at the IBC to meet additional demands for commentary without having to make use of bookable positions. Given the flexibility and versatility in combination with its input and output options for almost any situation, the Off-Tube booths were equipped with the portable AudioCodec AEQ Phoenix Alio as a commentary unit.

For control and mixing of the International Sound packages delivered by OBS in MADI format with the Spanish Language Commentary audio, Claro Sports used an AEQ ARENA digital console

Quality control was accomplished with an AEQ CAPITOL IP mixing console connected to the AoIP Network in combination with DANTETM Virtual soundcard application.

The Rio Olympics could be seen through Claro Sports' mobile application and was available for free in 17 countries. The transmissions were also available for users of Telefonica and AT&T as well as for users of open television, pay and video on demand for all Latin American countries in which Claro Sports had rights agreement.

The company estimated coverage was 400 million people had over 3,000 hours of events available. The multi-platform of Claro Sports allowed the user to access the content through the company's' website, television channels, the smartphone App and Claro video."

Mr. Eduardo Garcia and Travesí, responsible for Claro Sports operations during the Rio 2016 Games: "Our team has worked countless hours to ensure our success and summarizing, we can only confirm that this has been a tremendous success. Apart from our effort, the success of our operation has depended heavily on AEQ and its technological solution. The solution offered by AEQ has been excellent for this operation. The magnitude of our operation made us chose the solution from AEQ since they have a more than ample and proven experience in large events of this type. The equipment has worked flawlessly and the support provided by AEQ in Rio has been exquisite and very professional."

Given the importance and size of the event, AEQ sent its engineer Raúl Moreta to assist Claro Sports with the setting-up, testing and operations throughout the games.

## RTE. IRELAND.

### RTE RELIES ON AEQ FOR ITS COMMENTARY AUDIO FROM RIO OLYMPICS.



Irish public broadcaster RTE provided the coverage for the Rio Olympics and also provided the services of coverage for the Irish audience for the Paralympics.

The 16 channels of commentary audio that RTE was producing in Rio through the fully equipped commentary positions from OBS at the different venues were channelled through the 8 AEQ Phoenix VENUS IP AudioCodecs that RTE had acquired for the occasion. Logically, four of the Codecs were located at RTE's installations in Dublin and the other four in the RTE's Rio IBC facilities. The Control Phoenix Management Software application allows RTE to have full control of the Codecs both in Rio and Dublin and on the same computer, making operations very convenient and easy.

Each AEQ Phoenix VENUS is capable of establishing 4 simultaneous bi-directional mono channels to two different destinations so the 16 channels of commentary audio fitted snugly into the 4 Units at each end.

RTE's Tom Nugent: "Operations has been very smooth. The reliability of the communication links is excellent and we have not had to go to any of our resilience systems using ISDN back-up for the duration of the games. The only concern that we had initially was the fact that the units do not have a physical control but relies 100% on a Software control. Nonetheless, it becomes clear to one after a while that the Software control is only adding flexibility to the system and we can have several computers connected to the same system for reasons of redundancy."

## CANDELARIA RADIO. SPAIN

### AEQ ALIO PROVIDES QUALITY REMOTES FOR CANDELARIA RADIO



Local radio station “Candelaria Radio” is located in the municipality with the same name on the Canary Island of Tenerife, Spain. Naturally, and as a local station, Candelaria Radio is focusing on being in close contact with the city, its people and reality. The musical offering is very ample and the station is betting really hard on providing local news, current affairs and information.

Eventhough we are a small radio station, at Candelaria Radio we always have bet on state-of-the art technologies that simplifies our work flow and at the same time allow us to work from new and different locations.

From a technical point of view, AEQ’s new portable IP audiocodec, Phoenix ALIO is a piece of equipment full of resources, offering close to infinite opportunities. As usual with AEQ’s solutions, the Phoenix ALIO is very easy to use.

In our opinion, the AEQ Phoenix ALIO offers more than acceptable audio quality in combination with very simple set-up and configuration. Also, being such a small and compact unit, the transport becomes no issue at all. Generally speaking, this is a piece of equipment that will allow you to achieve according to expectations in any broadcast project taking place outside the radio studio and thanks to the immediateness of IP connectivity.

Yaiza Santana Mancheño  
 Director of Candelaria Radio  
 AEQ AudioCodecs References

**AEQ**

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## EUROPEA RADIO. SPAIN

### PHOENIX ALIO IN "EUROPEA RADIO



At Europa Radio, the radio station of European University of Madrid, we have always bet on the technology from AEQ.

As the telecommunications service providers in Spain are withdrawing the ISDN service for broadcasters and promoting IP Services as the only real alternative, outside broadcast IP devices are becoming increasingly important. In our case, we have chosen the portable IP Audiocoders "Phoenix Alio". The units are really useful for our outside coverage. The versatility and ease of use makes them the perfect companion not only for professionals but also for our student broadcast engineers and talents.

In our daily programming we are usually providing coverage from a variety of places, such as IFEMA (Madrid's Fairgrounds) during the "Aula" and "BIT Broadcast" exhibitions as well as to report on all kinds of ceremonies and events from the different function rooms of the buildings at our Campus.

Miguel Ángel Vázquez  
"Europa Radio" Technical Manager.

## 2015

### **SNRT. MOROCCO.**

The Radio and Television National Company “Société nationale de radiodiffusion et de television”, SNRT; is the public broadcaster of Morocco.

In 2015, as part of a technological upgrade project, he purchased 8 AEQ Phoenix Mobile portable audio codecs, and 3 AEQ Phoenix Studio, for his field reports and equipment for OB Van.

The purchase was made through the French integrator SAVE Diffusion



### **RRI. INDONESIA.**

The Radio National Company “Radio Republik Indonesia” is the public broadcaster for Indonesia.

In 2015, as part of an equipment project for its IP audio links between regional and local stations, it purchased a batch of 50 stationary audio codecs AEQ Phoenix MERCURY through the regional integrator RICHARDSON RFPD SINGAPORE PTE.



### **CADENA COPE. SPAIN.**

The Spanish COPE Radio Company It is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.

COPE acquired 25 Phoenix Mercury, and 2 Phoenix Venus audiocodescs in 2015



### **DORNA SPORTS. SPAIN**

Dorna Sports, S.L. is the commercial rights holder for the motorcycling sport of MotoGP.



Established in 1988 as an international sports management and marketing company, it is headquartered in Madrid, with branch offices and/or subsidiaries in Barcelona, Amsterdam, London and Rome. Private equity group Bridgepoint has been the majority shareholder of Dorna since 2006

In 2015, it acquired 4 Phoenix Venus Audiocodescs to expand its broadcast system for major sporting events

### ARCHI. CHILE.

The Association of Radio Broadcasters of Chile (Archi) is a Chilean union association that groups broadcasting stations, understood only as radio. it has more than a thousand affiliated private stations.



In 2015, through AEQ's distributor SERCOMSA, they made a collective purchase of 5 audiocodecs Phoenix Venus and 4 audiocodecs Phoenix Mercury for the affiliated stations that needed this equipment.

### CAAMA. AUSTRALIA.

CAAMA stands for Central Australian Aboriginal Media Association. It has a network of radio stations



In 2015, they acquired 5 AEQ Phoenix Mercury audiocodecs through the local integrator Wireless Components to establish links between their central studios and some local stations distributed throughout the Australian territory.

### RADIO TÉLÉVISION DU BURKINA

The Radio Télévision du Burkina is the national broadcaster of the West African state of Burkina Faso. Radio Télévision du Burkina is headquartered in the capital city Ouagadougou.



Within a technical equipment project, through the Belgian integrator Studiotech, they acquired in 2015, 5 Phoenix Mobile audiocodecs for Outside Broadcast

### AMAZONSAT. BRAZIL

Amazon Sat is a Brazilian television network licensed in Porto Velho, capital of the state of Rondônia, but headquartered in Manaus, capital of the state of Amazonas. It belongs to Amazônia Cabo, which also maintains CBN Amazônia and Echos radio stations, in addition to the Amazônia Portal. It is a broadcaster aimed at the public in the North of Brazil.



It covers 5 states in the North Region via open TV (with branches and retransmitters), in addition to covering the state of Maranhão by closed TV. There is also the possibility to watch the programming through its website and through iOS, Android and Windows Phone applications.

The Rádio TV do Amazonas group, affiliated with Rede Globo, in the states of Amazonas, Rondônia, Roraima, Acre and Amapá, is also part of the channel

In 2015, it acquired, through the Biquad integrator, 4 Audiocodecs Phoenix Mercury to transport the program between studios and broadcasting centers.

### RETEVISION. SPAIN

Retevisión is the main television and radio signal transport operator in Spain

Acquired, in 2015, 4 Audiocodex Phoenix Venus and 2 Audiocodex Venus 2 for signal transport between studios and radio transmitters



### EBU / EUROVISION. EUROPE

The European Broadcasting Union is the association that brings together the main television and radio stations in Europe. Among other activities, it shares audio and video signals at events of continental interest.



In 2015, it acquired 12 Phoenix Venus Audiocodex to expand its broadcast system for major sporting events

### INSERTEL RADIO NETWORK. SPAIN

#### INSERTEL CANARIAS ARE TRUSTING AEQ PHOENIX AUDIOCODECS



INSERTEL is a telecommunications company located and operating in the archipelago of the Canary Islands in Spain.

The company is providing broadcast telecommunication services for Radio and TV stations, including the hosting of communications and IT systems for third party transmission centres.

Both Carlos Medina as our Project engineer and myself, Henry Reyes, representing the company's technical direction and operations bet heavily on AEQ technology as

part of our offering of services for Radio Broadcasters. These services consist in transporting their programme and contribution audio over IP Networks and especially over the Internet.

The equipment that we have selected to cover our needs for our project have all been of AEQ's Phoenix Family of AudioCodecs, specifically the Phoenix Studio and Phoenix Mercury. The units are installed with our customers depending on the type of connection that the customer needs to establish and also the type of available link. We are providing services both for point-to-point and point- to-multi-point.

For our point-to-point connections or STL's, we are using links that are generally initiated in a studio and ending in a transmitter centre. The point-to-multi-point are normally accomplished from one studio to several transmitter centres (other destinations are of course possible) with the multi-unicast system that is available by default with the AEQ IP AiudioCodecs.

Due to the large number of equipment that are connected to our network and the wide geographical spread of this throughout the archipelago of the Canary Islands, the centralized management of the AudioCodecs becomes paramount. The AEQ ControlPhoenix provides us with all the necessary tools to manage our network of Codecs.

From the application of the AEQ ControlPhoenix we can supervise the status of all the AduioCodecs. Alarms and events and even Input and Output Audio levels can be verified for each piece of equipment thanks to the real-time on-screen precision Vu-meters. Any connection can be established or modified quickly and intuitively.

For reasons of configuration and our customers and their applications, on our proper INSERTEL Network we are normally using RTP Communications for our point-to-point connections. Nonetheless, the AEQ Phoenix AudioCodecs allows us to use any other common protocols to establish the connections such as SIP, either with or without an associate Proxy Server.

For connections requiring SIP Server, we would like to highlight that AEQ are providing free of charge the use of their dedicated SIP Server. This service is included with each of the AudioCodecs that AEQ delivers and allows us to connect two codecs without the need for fixed IP addresses.

Also, the AEQ AudioCodecs allows us to configure and modify the buffer to enable the correction of communication errors.

At INSERTEL we decided to trust the technology from AEQ, mainly because it is a manufacturer of recognized prestige and once accomplished the assessment in regards to the IP Technology that AEQ are providing and how it is working when deployed in a real environment, we could verify that it is up to standards and very reliable. We are as of whole very satisfied with the result that the AEQ solution has provided for our installation.

Henry Reyes  
Technical Director  
Insertel Canarias Spain

## EUROPEAN GAMES. AZERBAIJAN

### TECHNOLOGY FROM AEQ-KROMA AT THE FIRST EUROPEAN GAMES - BAKU 2015



The 2015 European Games were held in Baku, Azerbaijan, between 12 and 28 June 2015. It was the inaugural edition of this multi-sport event for athletes from the European federations of athletics and with similar characteristics to the Games Pan American or Asian Games. These Games drew more than 6,000 athletes from 50 NOCs competing in 20 sports in 253 events held in their 15 respective venues and stadiums. The Spanish delegation finished in an outstanding tenth place ranking in the medal table with 8 gold, 11 silver and 11 bronze medals.

International Sports Broadcasting - ISB – was appointed Host Broadcaster of the games and the producer of the multilateral signals for radio, television and internet and also the coordinator of all the broadcast unilateral services for the event. When appointed Host Broadcaster for the event, ISB selected AEQ and its engineering and consultancy company, Broad Services, as providers of numerous solutions for this major broadcast project.

AEQ contributed both with both audio and video equipment, with for example, digital audio mixing consoles AEQ CAPITOL as part of the commentary audio systems, communications with AEQ Phoenix VENUS and MOBILE deployed in most stadiums and venues. Also to be mentioned, AEQ provided a great quantity of broadcast monitors “KROMA by AEQ” used in the numerous technical operations centers. Further, AEQ provided consultancy, engineering and integration services for the broadcast telecommunications equipment in the technical operation centres at the venues. This equipment was housed in flight-cases designed to be ready for transport and allowing for the deployment and operation within minutes upon arrival at the venues.

Included in this equipment for the "TOC's" and necessary for the communications, AEQ supplied ISB with 36 units of AEQ Phoenix VENUS dual channel IP audio codecs to create the

circuits for technical coordination between the Venues and production control at the IBC. Another 5 units AEQ Phoenix VENUS were used to transport the program signal generated in mixed zones of the venues. The chapter of communications was completed with the AEQ Phoenix MOBILE, portable IP audio codec, as the commentary unit for each of the Venues fully equipped commentary positions.

Given the magnitude of the event, a technical team was sent to Baku by AEQ and was lead by the engineers Jennifer Suarez and Luis Hernandez, for all phases of installation, commissioning, training, operation supervision and technical assistance during the event.

## 2014

### 2M RADIO. MOROCCO.

Radio 2M was launched in 2004 as a musical radio. At the time, Radio 2M was a new concept in the Moroccan audiovisual landscape, targeting mainly youth with a musical content. It was also the second non-fully public radio to ever be allowed to broadcast. Owned by the company Société d'Etudes et de Réalisations Audiovisuelles (SOREAD, S.A.), Radio 2M has a national coverage, linked to the 2M TV channel, a historic and leading TV channel. It introduced news programmes in 2008 and extend its programming in 2015 to entertainment and talkshows.



In 2016, as part of a technological upgrade project, he purchased 10 AEQ Phoenix Studio for his links between station through the Spanish integrator Sistemas Radiantes F.Moyano.

### CADENA COPE. SPAIN.

The Spanish COPE Radio Company It is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.

COPE acquired 49 Phoenix Mercury, 7 Phoenix Studio and 5 Phoenix Venus audiocodecs in 2014.



### RADIO SONORA. MEXICO

Radio Sonora, a voice for Popular Culture, went "on the air" in Hermosillo, in 1982, as public radio.

Since its inception, Radio Sonora offers listeners, in addition to music in its different genres, programs with content and informational spaces.



Radio Sonora with its 28 repeaters and its pilot station in Hermosillo, manages to cover 98.5 percent of the state and consolidates itself as one of the most extensive radio systems in the Mexican Republic.

In 2014, it acquired four Venus dual audiocodecs for program transport to repeaters.

### AIR. INDIA.

AIR, (All India Radio) is the state-owned public radio and television broadcaster for India.

In 2014, as part of an equipment project for its IP audio links between stations, it purchased a batch of 4 stationary audio Phoenix Mercury, through the local integrator Eagle Technologies.



### SUPER SPORTS. SOUTH AFRICA.

SuperSport is a South Africa-based Pan-Africa group of television channels carried on the DStv satellite platform. It provides sports content in South Africa and many other African countries.



The channel broadcasts most of the major sporting events and leagues.

In 2016, they acquired 8 AEQ Phoenix Stratos audiocoders through the local integrator Prosound.

### EBU / EUROVISION. EUROPE

The European Broadcasting Union is the association that brings together the main television and radio stations in Europe. Among other activities, it shares audio and video signals at events of continental interest.



In 2014, it acquired 8 Phoenix Venus Audiocoders to expand its broadcast system for major sporting events.

### MEDIASET. SPAIN

Mediaset España Comunicación, S.A. is a Spanish communication group part of the Italian company Mediaset, owned by Silvio Berlusconi. Its basic activity is the production and exhibition of television content. It operates the television channels Telecinco, Cuatro, Factoría de Ficción, Boing, Divinity, Energy and Be Mad.

**MEDIASET**españa.



In 2014, it acquired 8 Audiocoders Phoenix Sudio Audiocoders for audio and coordination services in TV.

## RNA RADIO NACIONAL DE ANGOLA

### AEQ MERCURY IS ALREADY WORKING ON INMARSAT

Angola National Radio uses Inmarsat satellite systems with AEQ audiocoders. Since 2007 they are used with ISDN connectivity, now the technology requires an IP interface

AEQ and Inmarsat, through their representative in Spain, agreed to work together to provide the global broadcast sector with an integrated solution for high-quality audio in situations of very limited connectivity or especially remote locations, guaranteeing broadcast performance through the combination of technologies. of both companies.



Thus, the first joint work experience began 4 years ago with a reporter kit that included the AEQ Phoenix Mobile portable audiocoder and the Inmarsat BGAN satellite link unit, which together only represent 5Kg in weight but offer links in such a small space 7x24 professional broadcast quality from anywhere on the planet and at very competitive prices as the connection is now rarefied according to the data transmitted and not the minutes connected.

Now in 2014 AEQ and Inmarsat have decided to expand the partnership by including a new compact AEQ MERCURY audiocoder and the new AEQ Phoenix PC computer software application. For several days the technicians of both companies have worked in coordination to verify the compatibility of both technologies in the laboratories of the Inmarsat headquarters in London.

## 2013

### **RRI. INDONESIA.**

The Radio National Company “Radio Republik Indonesia” is the public broadcaster for Indonesia.



In 2016, as part of an equipment project for its IP audio links between regional and local stations, it purchased a batch of stationary audio codecs: 7 AEQ Phoenix Studio and 16 Phoenix Mercury , through the regional integrator RICHARDSON SINGAPORE.

### **RADIO ATLANTIDA. BRAZIL**

Rádio Atlântida Porto Alegre is the name of the headquarters of Rede Atlântida.

The head of the network, as it were, belonging to the RBS Group and headquartered in Porto Alegre, was founded in 1981, replacing Gaúcha-Zero Hora FM, with adult programming. RBS repositioned its modulated frequency station for the young segment,



It has acquired four Audiocodex Phoenix Mercury, dos Phoenix Venus to transport the program between studios and broadcasting centers. Also 2 Phoenix Lite and two Phoenix PC for outside broadcasting.

### **RADIO PRETORIA. SOUTH AFRICA.**

Pretoria FM is a community-based radio station in Pretoria, South Africa, whose programmes are aimed at Afrikaners. It broadcasts 24 hours a day in stereo on 104.2 FM in the greater Pretoria area. Various other transmitters (with their own frequencies) in South Africa broadcast the station's content further afield, while the station is also available on Sentech's digital satellite.



In 2013, they acquired 7 AEQ Phoenix Studio audiocodex through the local integrator Prosound for program transport.

### **MBC NETWORKS. SRI LANKA.**

MBC Networks (Pvt) Ltd is a Sri Lankan media company which owns five national radio stations - Shakthi FM, Sirasa FM, Yes FM, Y FM and Legends FM. The company was established in 1993 by the Capital Maharaja conglomerate. In 2013, it acquired 30 AEQ Phoenix Mercury audiocodex for inter-station links.



### RADIO PERTH. AUSTRALIA.

ABC Radio Perth (call sign: 6WF) is a radio station located in Perth, Western Australia, operated by the Australian Broadcasting Corporation, and broadcasting at 720 kHz AM. It is the flagship ABC Local Radio station in Western Australia.



In 2013, they acquired 4 AEQ Phoenix Mercury audiocoders through the local integrator Wireless Components to establish links between their central studios and the transmitter centers.

### MINISTRY OF SPORTS. TURKEY.

Turkish Ministry of Sports, in 2013, acquired, through the AKFA integrator, 40 Audiocoders Phoenix Studio for program transport.



### OLIMPICA FM. COLOMBIA

Olímpica Stereo is a radio station in Colombia, owned by Grupo Empresarial Olímpica.1 Official station of the "Olympic Radio Organization" O.R.O. With Colombian tropical music programming, it is present in 22 cities in the country. The headquarters is in Barranquilla.



In 2013, it acquired, through the Nueva Imagen y Audio integrator, 11 Audiocoders Phoenix Mercury to transport the program between studios and broadcasting centers.

### AMAZONSAT. BRAZIL

Amazon Sat is a Brazilian television network licensed in Porto Velho, capital of the state of Rondônia, but headquartered in Manaus, capital of the state of Amazonas. It belongs to Amazônia Cabo, which also maintains CBN Amazônia and Echos radio stations, in addition to the Amazônia Portal. It is a broadcaster aimed at the public in the North of Brazil.



It covers 5 states in the North Region via open TV (with branches and retransmitters), in addition to covering the state of Maranhão by closed TV. There is also the possibility to watch the programming through its website and through iOS, Android and Windows Phone applications. The Rádio TV do Amazonas group, affiliated with Rede Globo, in the states of Amazonas, Rondônia, Roraima, Acre and Amapá, is also part of the channel

In 2013, it acquired, through the Biquad integrator, 22 Audiocoders Phoenix Mercury to transport the program between studios and broadcasting centers.

### RADIO ITAITAIA. BRAZIL

Rádio Itatiaia, also known as A Rádio de Minas, is a Brazilian radio station headquartered in Belo Horizonte, capital of the state of Minas Gerais, with a signal transmitted to the state. It operates on AM 610 kHz and FM 95.7 MHz frequencies, concessioned, respectively, in Nova Lima and Pedro Leopoldo, being the largest radio station in Minas Gerais.



In 2013, it acquired 4 Audiocodex Phoenix Studio, to transport the program between studios and broadcasting centers.

### MOJAPELE PRODUCTIONS. SOUTH AFRICA

It is a company specialized in television production facilities, both in studio and outdoors.

Its extensive fleet of external transmission trucks is equipped with the most advanced HD. All of these trucks have been designed with the transmission requirements and workflows of South Africa in mind.

They work at major sporting events, music concerts, news, entertainment shows, studio productions, and reality TV shows.

They need audiocodex to transmit the outdoor audio, technical coordination and introduction of calls to the air. They acquired, in 2013, 6 Audiocodex Phoenix Mercury through the local integrator Prosound.

### EBU/ EUROVISION. EUROPE

The European Broadcasting Union is the association that brings together the main television and radio stations in Europe. Among other activities, it shares audio and video signals at events of continental interest.



In 2013, it acquired 2 Phoenix Venus Audiocodex to expand its broadcast system for major sporting events.

### RADIO MARCA. SPAIN

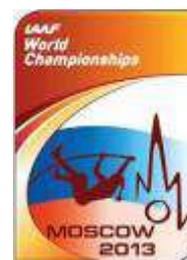
Radio Marca is a Spanish radio station that broadcasts sports information 24 hours a day. The station belongs to Grupo Unidad Editorial, which in turn belongs to the Italian group RCS MediaGroup.



it acquired 6 AEQ Phoenix Mercury audiocodex for Studio-to-Transmitter link.

## ATHLETICS WORLD. RUSSIA

### AUDIOCODECS AEQ PHOENIX EQUIP THE ATHLETICS WORLD CUP IN MOSCOW 2013



In keeping with its commitment to major sporting events, where AEQ technology has been a classic on the big calendar events since 1988, again one of the most important sporting events of summer 2013 has featured AEQ technology at IAAF-Moscow.



The XIV World Athletics Championship was held in Moscow (Russia) between August 10 and 18, 2013 under the organization of the International Association of Athletics Federations (IAAF) inside the Luzhnikí Olympic Stadium in the Russian capital, with capacity for 78 thousand spectators, where 1970 athletes participated, representing 206 different national federations. The European Broadcasting Union (EBU-Eurovision) once again relied on AEQ DCS-10 commentary system technology to equip all of its commentary positions, as well as numerous AEQ PHOENIX STUDIO audiocodec units to link the stadium to the national headquarters of each radio and TV over IP networks.

## 2012

### MINISTRY OF DEFENSE. RUSSIA

In 2012, he purchased 14 AEQ Phoenix Mercury audio codecs



### CADENA COPE. SPAIN.

The Spanish COPE Radio Company It is one of the largest radio broadcasters in Spain, with studios in more than 70 cities and 250 transmission centers.

COPE acquired 17 Phoenix Studio in 2012



### CAAMA. AUSTRALIA.

CAAMA stands for Central Australian Aboriginal Media Association. It has a network of radio stations

In 2016, they acquired 4 AEQ Phoenix Mercury audiocoders to establish links between their central studios and some local stations distributed throughout the Australian territory.



### POLIS RADIO STATION. TURKEY.

Turkish Police manages a broadcasting network

In 2016, it acquired, through the Ideapro integrator, 20 Audiocoders Phoenix Studio for program transport.



### EBU / EUROVISION. EUROPE

The European Broadcasting Union is the association that brings together the main television and radio stations in Europe. Among other activities, it shares audio and video signals at events of continental interest.

In 2012, it acquired 3 Phoenix Studio Audiocoders to expand its broadcast system for major sporting events



### SUPER SPORTS. SOUTH AFRICA.

SuperSport is a South Africa-based Pan-Africa group of television channels carried on the DStv satellite platform. It provides sports content in South Africa and many other African countries.



The channel broadcasts most of the major sporting events and leagues

In 2012, they acquired 8 AEQ Phoenix Studio audiocoders through the local integrator Prosound

### MBC NETWORKS. SRI LANKA.

MBC Networks (Pvt) Ltd is a Sri Lankan media company which owns five national radio stations - Shakthi FM, Sirasa FM, Yes FM, Y FM and Legends FM. The company was established in 1993 by the Capital Maharaja conglomerate. In 2012, it acquired 5 AEQ Phoenix Studio audiocoders for inter-station links.



### SNRT. MOROCCO

#### SNRT SELECTS AEQ PHOENIX STUDIO TO EQUIP 17 NEW STUDIO-TO-TRANSMITTER LINKS



National Company of Radio and Television (SNRT) is a public company that operates as national broadcaster of Morocco. Today is a full-rights member of EBU's plenary session

At present SNRT manages 9 independent television channels, 4 national coverage radio stations and 10 regional radio channels.

SNRT has been traditionally a satisfied AEQ customer of audio mixing consoles (they have several radio studios in their facilities broadcasting over AEQ material), and communication equipments like rack-mounted (for central studios) or portable (for journalist)

SNRT renews once again their confidence in AEQ's technology, selecting now AEQ Phoenix Studio audiocoders to equip 17 studio-to transmitter links between their programs production central headquarters distributed all over the country and the associated remote transmitter sites. Final selection, after a phase of technical evaluation, of AEQ Phoenix Studio units was based on its great flexibility and simple operation, since the majority of these STL are in remote zones and use the most varied methods of connection (ADSL, ISDN,

X21/V35...) as well as the most diverse communication algorithms (MP2, PCM, AAC, G722, AEQ-LD ...) always for stereo signals.

SNRT considers very important in the operation, one of the technical features that make AEQ Phoenix Studio unique in the competitive market of the professional audiocodec over IP for broadcast: one AEQ Phoenix Studio unit can encode in real time just one mono signal, or two independent mono signals, or one mono and one stereo independent signals, or even two independent stereo signals in parallel. Customer gets two complete IP audiocodecs only installing one.

AEQ together with their local partner ABCHIR moved a large technical team led by the engineer Mr. Luis Hernandez to attend to all the installation and startup of the STLs, as well as to provide complete operation and maintenance training seminars for all the supplied material.

## EBU / EUROVISION. EUROPE

### **JAVIER POLO, HEAD OF EBU SPORTS OPERATIONS GROUP, REVEALS THAT THE EBU WILL USE THIS EQUIPMENT TO BROADCAST THE EVENT.**



Mr. Polo has written an Application Note and a User Report explaining how EBU is going to use AEQ equipment and the Phoenix Studio audio-codecs in particular, broadcasting the London 2012 Olympic Games. Among others, the following aspects are highlighted by Mr. Polo:

“Broadcast operations at large international events such as the Olympic Games always present challenges of scale. One of them is the distribution of thousands of audio circuits from different sources (commentary, International Sound, PA, etc.) to all of the Rights Holding Broadcasters.

The audio signals are generated by the Host broadcasting organisation at the Rights Holding Broadcasters commentary positions at the different venues and through the AEQ commentary system. All circuits from

every venue are sent to the IBC (International Broadcasting Centre), specifically named as CSC (Commentary Switching Centre) through AEQ BC 2000D routers. This is what is called Contribution.

Once all the circuits from the venues have been collected, they are sorted at Concentration. After that they go through an AEQ TITAN Router of 5000x5000 audio circuits and that handles the circuit switching. It ensures that each circuit reaches its respective destinations according to the Host Broadcasting Organisations planning. This

switching is in most cases fixed, and following extensive and very rigorous planning, but can also be dynamic with circuits shared by several users at different times.

In our case (EBU, European Broadcasting Union), it works a little bit different: the EBU switching centre at the IBC receives a high-capacity direct link from the main router in the Host Broadcaster Commentary Switching Centre. EBU distributes the circuits through their own AEQ TITAN matrix to each associate or member broadcaster. These audio circuits are sent through dedicated equipment to the countries of destination using several different link types, like E1, IP or ISDN.

To transmit or distribute the audio circuits by IP and ISDN, it is necessary to use an audio-codec with the most demanding requirements for high quality, low delay audio and reliability of transmission, including automatic communication recovery in the event of a temporary transmission line failure. The AEQ Phoenix Studio audio-codec is ideal for this application.

In the London Olympic Games, peer-to-peer links will be used. The audio circuits can be accomplished with either high quality 15KHz AEQ-LD+ algorithm or traditional 7,5 KHz G.722. The audio circuit transmission path will be digital from the commentators microphone inputs up to the broadcasters audio mixing console or the viewers TV receiver.



Both Host and EBU Broadcasters have been using AEQ equipment for decades. The Phoenix Audiocodec, in addition to the AEQ's new digital commentary equipment, automated and integrated, represents a quantum leap with regards to the audio and communications quality and system reliability when broadcasting the worlds greatest sport events".

## 2011

### **SUPER SPORTS. SOUTH AFRICA.**



SuperSport is a South Africa-based Pan-Africa group of television channels carried on the DStv satellite platform. It provides sports content in South Africa and many other African countries.

The channel broadcasts most of the major sporting events and leagues

In 2011, they acquired 6 AEQ Phoenix Studio audiocoders through the local integrator Prosound

### **RTR. RUSSIA**

#### **RUSSIAN RADIO TRUSTS AEQ PHOENIX CODECS**

*The Russian Radio - RTR, main broadcaster in Russia are trusting AEQ Phoenix Audiocoders for their own and Euroradio remotes in IP, ISDN, 3G and POTS (PSTN).*



RTR is also part of the Euroradio network and under the umbrella of the European Broadcasting Union. To better service the Euroradio clients, RTR have installed the AEQ

[AEQ AudioCoders References](#)

PHOENIX STUDIO in their Central Broadcast Control Room. These multi-format AudioCodecs are connected to RTR's Studios through the AEQ BC-2000 Audio routing system in AES/EBU. To connect the AEQ Phoenix Studio to the outside world, RTR are generally using the double Ethernet interfaces for the IP communications but can also use the ISDN and POTS(PSTN) connectivity of the equipment when circumstances so require. Basically and depending on what RTR may find on the other side of their way of transmission, the AEQ Phoenix studio can be IP, ISDN or POTS. It also becomes very useful that the the units Ethernet interfaces are independent. RTR normally assigns one of the Ethernet connections to SIP connections (Private IP) and the other for RTP or Direct SIP (Public IP). This way RTR can always run two simultaneous IP connections from the same AEQ Phoenix.

RTR are frequently making international connections using the equipment. The IP connections are typically the preferred type of connections. For example, for foreign Journalists we provide the broadcast service from our studios to their home countries. As an example, for the Danish radio we are providing connectivity for their journalists from Denmark through Direct SIP. Journalist from other countries are also making connections from our studios to their countries. These connections are normally lasting over two hours and have to be accomplished with the highest broadcast audio standards in terms of both Audio quality and reliability.

Also, we are using the equipment to cover events, both sports and others. Last years Eurovision Song contest in Oslo was entirely accomplished with the AEQ Phoenix AudioCodecs. We decided on that occasion to link our studios with the event through RTP connection (IP interface). The transmissions lasted for 7 days and for four hours a day and we can only say that communication and quality of audio were excellent.

This year, among the International broadcast communications that have been accomplished with the AEQ Phoenix Studio in ISDN mode are the RTR studio interconnection with Ukraine (Kiev), Poland (Warsaw) and with Bulgaria (Sofia)

Our AEQ Phoenix Studio are readily available for use by RTR and other broadcasters that belong tot he Euroradio 24 hours a day, 7 days a week. Our colleges just have to call us and we can connect them to our studios.

For our own national journalists, we also have six AEQ PHOENIX MOBILE. These units are the perfect companion to the AEQ Phoenix Studio. We use them to keep our field reporters connected with our studios in Moscow. Normally, our journalists are connecting through SIP and 3G modem, but they also have the possibility to connect through either ISDN or POTS (PSTN).

Andrey Kozlov  
Head of Broadcast Zones Forming Section  
Euroradio Contact Engineer  
RTR

## **2010**

### **SNRT. MOROCCO.**

The Radio and Television National Company “Société nationale de radiodiffusion et de television”, SNRT; is the public broadcaster of Morocco.



In 2010, as part of a technological upgrade project, he purchased 10 AEQ Phoenix Studio audio codecs.

### **MIZMOR PRODUCTIONS. ISRAEL**

was established in 1992. The company has steadily grown since, and has managed to accumulate a large number of steady and satisfied client pool.

Through the years MVP was involved in various kinds of productions, which required skills and creativity, and turned it to an experienced and most professional in the field of productions and broadcasting using OB trucks.



In 2010, he purchased 10 AEQ Phoenix Studio audio codecs, through local integrator Kilim

### **FORTA. SPAIN**

The Federation of Autonomous Radio and Television Organizations (FORTA) is an association of 12 public radio and television entities from the autonomous communities of Spain, founded on April 5, 1989.



In 2010, they acquired 7 AEQ Phoenix Mobile audiocoders for outside broadcasting

## AIR. INDIA

### ALL INDIA RADIO SELECTS AEQ PHOENIX FOR BROADCAST COMMUNICATIONS

#### AEQ PHOENIX FAMILY EQUIPS ALL THE AIR FACILITIES FOR COMMUNICATIONS OVER IP AND ISDN NETWORKS



Inside one of the major operations of communication equipment update never executed by the national broadcaster of the India AIR (for his initials in English IALL INDIA RADIO), AEQ has been selected as the only supplier of all the necessary units to interconnect the different regional headquarters over ISDN and IP networks.

AIR was founded inside the Broadcasting India Corporation called Prasar Bharati in 1936. At present AIR possesses independent channels in 27 languages (17 natives and 10 internationals) with national and international coverage combining terrestrial, satelital and over Internet transmissions. There are also services in local and regional programs using other 146 dialects. AIR'S complete network includes 232 main transmitters centers, with 149 MW transmitters, 59 SW transmitters and 172 FM transmitters. The final coverage is over 99% of the population

AIR has been traditionally a satisfied client of the AEQ technology in communication equipments using today an important number of ISDN codec like AEQ EAGLE model, but the new times claim new forms of communication and the AEQ PHOENIX family is one of the main references on this demanding market.

The totality of the project awarded to AEQ includes the supply of 132 units of rack-mounted AEQ Phoenix Studio codec and 66 units of portable AEQ Phoenix Mobile codec.

PHOENIX STUDIO is an IP audiocodec, in a single 1 U rack mount case, with stereo analogue and digital inputs and outputs and universal power supply (90-250V AC). The PHOENIX also has two slots for inserting optional communication modules: PSTN, ISDN, X21, V35 and GSM. Indeed the modular approach of the PHOENIX means that future modules can be easily developed depending upon market preferences.

As main part of this project AEQ has organized 5 technical seminars in the India to qualify in the use of the new IP and 3G technologies available in Phoenix together with the traditional ISDN interface, possessing a total assistance near to 200 persons exceeding all the expectations.

The totality of the projects has been coordinated by AIR CTO Mr. R.K. Pandey in cooperation with Mr. Shams Gulrez as Sales Manager of Falcon Technologies one of the best broadcast integrator in India and local partner of AEQ during last 15 years, and AEQ Asia Sales Manager Mr. Alvaro Martinez.

The PHOENIX, in addition to the main programme and return, can simultaneously provide a backup (or coordination) channel utilising the optional communication modules. The PHOENIX family has been designed to ensure interoperability with both present and future AEQ and third-party equipment. Therefore it is equipped with a great variety of encoding formats and can easily be upgraded to other formats as the market matures.

#### **INDIRA GANDHI NATIONAL OPEN UNIVERSITY. INDIA.**



Indira Gandhi National Open University known as IGNOU, is a Central University located at Maidan Garhi, New Delhi, India. IGNOU is run by the central government of India, and with total active enrollment of over 4 million students, claims to be the largest university in the world.

IGNOU was founded to serve the Indian population by means of distance and open education, providing quality higher education opportunities to all segments of society. It also aims to encourage, coordinate and set standards for distance and open education in India, and to strengthen the human resources of India through education. It also acts as a national resource center, and serves to promote and maintain standards of distance education in India.

IGNOU has started a decentralization process. This decentralization forces the sending of audio programs between different locations, which is why it acquired in 2010 a batch of 22 Phoenix Studio audiocodecs

## 2009

### **SUPER SPORTS, SOUTH AFRICA.**



SuperSport is a South Africa-based Pan-Africa group of television channels carried on the DStv satellite platform. It provides sports content in South Africa and many other African countries.

The channel broadcasts most of the major sporting events and leagues

In 2009, they acquired 6 AEQ Phoenix Mobile audiocodex for outside broadcasting through the local integrator Prosound

### **RADIO PUBLICA DE CANARIAS. SPAIN**



Radio Televisión Canaria (RTVC) is a public autonomous television and radio entity dependent on the Government of the Canary Islands (Canary Islands, Spain). It is made up of the TVAP company, the mercantile company Televisión Pública de Canarias, S.A. and by the public company Radio Pública Canaria, S.A. Employs 350 workers

In 2009, they acquired 4 AEQ Phoenix Mobile audiocodex for outside broadcasting

### **BETHEL RADIO. PERU**



Bethel Radio is a Christian radio station, it belongs to the BETHEL CULTURAL ASSOCIATION (ACB), a non-profit corporation, and to the church of the WORLD MISSIONARY MOVEMENT, which has as its characteristic the express purpose of transmitting the Gospel to the whole world. Its headquarters are in Peru.

In 2009 they acquired 3 Phoenix Mobile audiocodex for their off-station events

### **L'ENTREPRISE NATIONALE DE TELEVISION (ENTV). ALGERIE**

#### **SONY UK SELECTS AEQ PHOENIX MOBILE FOR HD OB VANS**

Sony Professional Services has obtained a major deal with Algerian state broadcaster. Algerian Public Television, **L'Entreprise Nationale de Télévision (ENTV)** has commissioned Sony to build five High Definition (HD) OB vehicles for the TV channel.

ENTV was created officially in 1986 as successor of RTA **Radiodiffusion Télévision Algérienne** founded in 1962 after the independence of the country. ENTV is responsible for transmitting five channels of locally produced news, entertainment, culture and sports programming to French and Arabic speakers in the North African region: Canal Algerie, Algerie 2, Algerie 3, Tamazighth and Kannat el-Coraän channels. ENTV is also a member of the European Broadcasting Union EBU.

Sony is building five HD OB vehicles as part of a major ENTV internal modernisation strategy and its move towards HD production. The HD trucks will include 48 cameras; 80 LMD monitors; 10 VTRs; and five video switchers amongst others Sony units. Along with this contract came the opportunity to also provide twelve mobile codec's and AEQ's Phoenix Mobile fitted the bill!

Phoenix Mobile is a compact, light, and portable multi-function IP audio codec which is fully compliant with the N/ACIP EBU Tech 3326 recommendations.

AEQ Phoenix is a completely flexible and extremely versatile communications platform that includes several communication interfaces: built-in IP, and two slots which accommodate additional interfaces, allowing us to use POTS/PSTN and ISDN lines, or any type of line that can be adapted to the USB interface such as 3G/GSM.



Phoenix comes equipped with a wide variety of encoding modes including AAC, allowing us to link with other compatible IP codecs, and through its additional comms modules, with virtually any ISDN codec on the market. The equipment allows us to choose the encoding mode and output bit rate suited to the bandwidth and type of network available at any time, which is perfect for the journalist operation.

The Phoenix's, fitted with both POTS/PSTN and ISDN modules, were recommended not only because of the portability but because the codec is simply 'future proofed' with the IP encoding already in place. The fact that it has expansion slots with a variety of available interfaces that suited the customer's needs also appealed as this would allow future upgrades if necessary. An ideal small mixer (Phoenix has an internal digital router) for every occasion- not only an audio encoder.

Phoenix Mobile is made of tough ABS materials making it especially resistant to the rigors of working on the road, and its high-capacity Li-Ion battery (2.5 hours) is more than adequate to cover most remote events.

## 2008

### SER RADIO. SPAIN



7 TLE-02D portable hybrid and ISDN audiocodec, 1 SWING portable hybrid and ISDN audiocodec



### RADIO HELE NORGE. NORWAY



1 SWING portable hybrid and ISDN audiocodec

### TV 2. NORWAY



1 multicodec COURSE

### RADIODIFUSORA DEL CENTRO. ARGENTINA



1 MPAC-02 portable hybrid and double ISDN codec.

### EUROSPORT TELEVISION. SPAIN



6 Eagle ISDN codecs for its main facilities.

### **RADIOTELEVIÇÃO CABOVERDIANA. CAPE GREEN ISLANDS.**

Radiotelevisão Caboverdiana has purchased 1 Eagle for its communications between facilities.

3 TLE-02D portable hybrid and ISDN audiocodec,

### **RADIO UTRERA LA VOZ, SPAIN.**

4 Eagle ISDN codecs for its main facilities.

2 SWING portable hybrid and ISDN audiocodec



### **TRIVENI COMMUNICATIONS. INDIA.**

Supply and start-up of a Systel system for management of all the incoming / outgoing telephonic calls for the national television channel VOICE INDIAN OF TV. Includes: Course, Impact and Caddy as well as finished wiring necessary for the interconnection of the components, and the final integration in the general installation.



### **ALFACAM. BELGIUM**

2 Eagle ISDN codecs for its main facilities.

6 SWING portable hybrid and ISDN audiocodec

### **CADENA COPE. SPAIN.**

5 Eagle ISDN codecs for its main facilities.

9 TLE-02D portable hybrid and ISDN audiocodec,

1 SWING portable hybrid and ISDN audiocodec

### **BAG MEDIA & FILMS LTD. SYSTEL 6000 WITH COURSE CODECS. INDIA.**

Supply and start-up of a Systel system for management of all the incoming / outgoing telephonic calls for the national television channel NEWS-24. Includes: Course, Impact and Caddy as well as finished wiring necessary for the interconnection of the components, and the final integration in the general installation.



### IRIB. IRAN.

10 MPAC-02 portable hybrid and double ISDN codec.



### RPE. ECUADOR

ECUADOR'S PUBLIC RADIO acquires Phoenix and Swing audiocodescs

The Andean broadcaster has modernized its stations in Quito, Guayaquil, and Cuenca. In each of the three cities, includes a Phoenix Mobile IP audio codec and a ISDN Swing audio codecs,



### RADIO TELEVISION PORTUGAL. PORTUGAL.

19 Eagle ISDN codecs for its main facilities.  
2 TLE-02D portable hybrid and ISDN audiocodec,  
1 SWING portable hybrid and ISDN audiocodec

### SAMAR FM 103FM. SAUDI ARABIA.

2 Eagle ISDN codecs for its main facilities. STL application.



### MEGA MUSIC SPOLKA. POLAND.

2 SWING portable hybrid and ISDN audiocodec

### RADIO NACIONAL DE ANGOLA . ANGOLA

1 SWING portable hybrid and ISDN audiocodec



### AEQ CODECS FOR AFRICAN BROADCASTERS IN 2008:

- 20 new Eagle audio codecs to SABC, South Africa
- 6 new Eagle audio codecs to Telecom in Mozambique for their quality audio service

### AEQ CODECS AT BEIJING OLYMPIC GAMES:

It is well known in the broadcast industry that AEQ has been, and continues to be, a key player at the world's Olympic Games. Once again, AEQ played a significant role as the supplier of communications equipment to this year's Olympic Games.

- AEQ's Ranger Multiplexers were used to broadcast program and coordination information (and the returns) to the International Broadcasting Center.
- Some of the Olympic broadcasters who used AEQ equipment were: TV AZTECA and TELEVISA (Mexico); Radio Caracol (Colombia); ENTV (Algeria); RTRRA (Russia), ROR (Romania), SABC (South Africa), RTVE (Spain), France 2; Globo (Brazil) and NHK (Japan). 17 ALFACAM OB Vans were used at the multiple venues and the Olympic Stadium to produce HD video had AEQ equipment installed as part of their equipment suites. The most frequently communications used equipment items were: EAGLE, SWING, MPAC-02, TLE 02, Ranger, and the ACD 5001.
- Special mention goes out to the European Broadcasting Union, EBU (EUROVISION), the primary broadcasters association. For many years the EBU has used AEQ's Course Coders to deliver audio from the Games to Europe. For the Beijing Games, AEQ updated EBU's switching capability with the BC 2000 D Router Matrix, and for transport our new multiplexing modules were integrated into the BC 2000 D Router. So at Beijing 2008, the EBU christened the new AEQ BC 2000 D Multiplexer.



### TELEVIZIJOS IR RYSIO SISTEMOS . LATVIA.

3 Eagle ISDN codecs for its main facilities  
 3 SWING portable hybrid and ISDN audiocodec

### EUSKAL TELEBISTA. SPAIN.

2 MPAC-02 portable hybrid and double ISDN codec

### ALFACAM. BELGIUM.

Belgian firm Alfacam, world leader in OB Vans for television production and broadcasting, uses the EAGLE codec in its OB Vans for HDTV.



### CANARIAS RADIO. SPAIN

CANARY ISLAND'S AUTONOMOUS COMMUNITY RADIO. EQUIPPED WITH AEQ'S CODECS

Outside communications are handled by the SYSTEL 6000 system. Access to this system is by means of the SYSTELSET audio and intercom interfaces and touch terminals in each studio. The central control room includes three ISDN EAGLE and a COURSE with four dual audio codecs.



### HHB. UNITED KINGDOM.

AEQ's UK wholesaler, HHB, sold 14 SWING Portable Codecs to a major British broadcaster

### CANAL SUR TELEVISION. SPAIN.

4 MPAC-02 portable hybrid and double ISDN codec



### ROMANIAN PUBLIC TELEVISION. ROMANIA.

Romanian television acquired a COURSE Multi-Codec and 4 SWING portable codecs to carry out remote broadcasts.



### OVIDE MAUDET. SPAIN.

3 MPAC-02 portable hybrid and double ISDN codec

### RADIO RENASCENÇA. PORTUGAL

AEQ CODECS AT GRUPO RENASCENÇA RADIO STUDIOS IN OPORTO

The main studio, the two auxiliary and the reporter's booths include SYSTEL 6000 Multi-Conferencing System terminal. The Central Control facility have a 16-channel SYSTEL 6000 Multi-Conferencing System with a Course multicodec



### PHOENIX MOBILE CODEC REFERENCES

- SABC, Southafrica
- CARACOL TV Colombia
- RTVC Colombia
- Czech National Radio, Czech Republic
- Radio Publica de Ecuador, Ecuador
- Seville CF, Spain
- Super Sport FM, Greece
- Israel Broadcasting Authority , Israel
- Radio Marina FM, Kuwait
- Bank, Poland
- Russian National Radio, Russia
- Radio KARKA, Slovenia
- Sony Corp, UK
- Nascar, USA
- Radio Thailand, Thailand

## 2007

### **ALFACAM. BELGIUM.**

1 Eagle ISDN codecs for its main facilities

### **EGYPTIAN RADIO AND TELEVISION UNION. EGYPT.**

15 SWING portable hybrid and ISDN audiocodec for its remote transmissions.



### **AL-HUSSEIN BIN TALAL UNIVERSITY. JORDAN.**

1 SWING portable hybrid and ISDN audiocodec



### **TELEVIZIJOS IR RYSIO SISTEMOS. LATVIA.**

1 Eagle ISDN codecs for its main facilities

1 MPAC-02 portable hybrid and double ISDN codec.

### **WORLD ICE HOCKEY CHAMPIONSHIP, EAGLE AUDIOCODECS. RUSSIA.**

With 50 Eagle ISDN audiocodecs for to send the signal in high quality format to any radio or TV network in the world from Moscow.



### **SRI-LANKA BROADCASTING CORPORATION. SRI LANKA.**

5 Eagle ISDN codecs for its main facilities  
1 SWING portable hybrid and ISDN audiocodec



### **QATAR RADIO AND TELEVISION CORPORATION. QATAR.**

2 SWING portable hybrid and ISDN audiocodec



### **EUSKAL IRRATI TELEBISTA. SPAIN.**

4 Eagle ISDN codecs for its main facilities.  
2 TLE-02D portable hybrid and ISDN audiocodec,  
1 SWING portable hybrid and ISDN audiocodec

### **RDP SYSTEL 6000 WITH COURSE CODECS. PORTUGAL**

Supply and start-up of a Systel 6000 SYSTEM for management of all the incoming / outgoing ISDN connections over 8 different simultaneous full-duplex lines, available in all the studios in its facilities of Lisbon.



Includes: Course, Impact and Caddy as well as finished wiring necessary for the interconnection of the components, and the final integration in the general installation.

- 8 Eagle ISDN codecs for its main facilities.
- 17 TLE-02D portable hybrid and ISDN audiocodec,
- 3 SWING portable hybrid and ISDN audiocodec

### TELECINCO TV GESTEVISION. SPAIN.

4 Eagle ISDN codecs for its main facilities.  
1 Systel 6000 system over multicodec AEQ COURSE.



### IRIB. IRAN.

20 MPAC-02 portable hybrid and double ISDN codec.



### RADIOTELEVIÇÃO CABOVERDIANA. CAPE GREEN ISLANDS.

Radiotelevisão Caboverdiana has purchased 2 Eagle's for its communications between facilities.



### CAP RADIO TANGER. MARROC.

2 Eagle ISDN codecs for its main facilities

### SHAM FM. SYRIA.

16 Eagle ISDN codecs for its main facilities  
[AEQ AudioCodecs References](#)



**BAG MEDIA LTD. INDIA.**

7 Eagle ISDN codecs for its main facilities

**PUNTO RADIO MOBILE STUDIO with Eagle and TLE 02 codecs. SPAIN.**

This unit travelled all over Spain as Punto Radio’s corporate image and was used to make on-the spot broadcasts from locations around the country. Complete project has been executed by AEQ.



**SERVICIOS INTEGRALES. SPAIN.**

5 MPAC-02 portable hybrid and double ISDN codec.

**RADIO LELO HAFSAKA 103FM. ISRAEL.**



1 Eagle ISDN codecs for its main facilities

**MEGA MUSIC SPOLKA. POLAND.**

9 TLE-02D portable hybrid and ISDN audiocodec,

**OVIDE MAUDET. SPAIN.**

11 SWING portable hybrid and ISDN audiocodec



**EUROCOM BROADCAST. SPAIN.**

6 SWING portable hybrid and ISDN audiocodec

AEQ AudioCodecs References

**RADIO EUSKADI EITB, BILBAO AEQ SYSTEL 6000 WITH 2 FULL EQUIPED COURSE Multicodec. SPAIN.**

With 40 ISDN lines and 14 control stations.



**UCKG MEDIA CENTRE , EAGLE CODECS. UK.**

2 pair of Eagle codecs for STL

**CADENA COPE. SPAIN.**

8 Eagle ISDN codecs for its main facilities.  
9 TLE-02D portable hybrid and ISDN audiocodec.

**UNIDAD EDITORIAL INTERNET. SPAIN.**

16 TLE-02D portable hybrid and ISDN audiocodec,

**PUNTO RADIO SEVILLE Systel 6000 with Eagle codecs. SPAIN.**

This unit of 4 lines includes dual installation for simultaneous use in its radio studio and on its television production set.

[AEQ AudioCodecs References](#)

**AEQ**

Tel: (+34) 91 686 13 00 - Email: [aeqsales@aeq.es](mailto:aeqsales@aeq.es) - Web: [www.aeq.eu](http://www.aeq.eu)



### **RADIO AGRICULTURA, SYSTEL 6000 WITH COURSE CODECS FOR 92.1FM. CHILE.**

During last ten years Radio Agricultura has been a happy customer of AEO Systel 3000 multiconference system: So Radio Agricultura has selected for its facilities in Santiago of Chile the SYSTEL 6000 system and Course Multicodec for the centralized management of all the incoming and outgoing communications associated with the programs realized in the company.



AEQ SYSTEL 6000 communication system for multiconferences given, has AEQ COURSE unit as central communications equipment, an AEQ IMPACT as routing device on charge of the creation of the crosspoints and necessary Mix - minus, and an A/D-D/A converter unit AEQ CADDY model. Control system of the totality of the units inside the Systel 6000 system, offers 4 control interfaces over PC platform, available both in the zone of ONAIR studio (with touch-screen) and in the zone of production and backup or recording studios. Control system is completed with 4 SYSTELSET units for monitoring, PFL and intercom with the external lines

#### **CANAL SUR TELEVISION SEVILLE. SPAIN.**

5 Eagle ISDN codecs for its main facilities.  
22 SWING portable hybrid and ISDN audiocodec

#### **SERVICIOS AUDIOVISUALES OVERON. SPAIN.**

4 MPAC-02 portable hybrid and double ISDN codec



#### **QATAR RADIO & TELEVISION CORPORATION. QATAR.**

2 TLE-02D portable hybrid and ISDN audiocodec,

## 2006

### **TEK SIGNALS. UNITED ARABIC EMIRATES**

2 MPAC-02 portable hybrid and double ISDN codec.



### **TELEVIZIJOS IR RYSIO SISTEMOS. LATVIA.**

1 Eagle ISDN codecs for its main facilities  
1 SWING portable hybrid and ISDN audiocodec



### **RTV COMERCIAL. CUBA.**

14 SWING portable hybrid and ISDN audiocodec

### **CANAL SUR RADIO SEVILLE. SPAIN.**

5 Eagle ISDN codecs for its main TV facilities  
3 SWING portable hybrid and ISDN audiocodec



### **RADIODIFFUSAO PORTUGUESA. PORTUGAL.**

4 Eagle ISDN codecs for its main facilities  
13 TLE-02D portable hybrid and ISDN audiocodec,

### **VAV PRODUCTIONS. SPAIN**

8 Eagle ISDN codecs for its DSNG OB VANS  
1 TLE-02D portable hybrid and ISDN audiocodec,



### **FIBA, Basketball World Championship, MPAC ISDN codecs. JAPAN**

AEQ participated in the 2006 FIBA World Basketball Championship in Japan with 41 AEQ MPAC 02 commentator units supplied to the host broadcaster, NHK. AEQ supplied 41 MPAC 02 codecs to NHK, Japan's national television entity, for the FIBA World Basketball Championship held in September 2006. The codecs were used by the commentators from the various television broadcasters that transmitted the event. Moreover, in the coverage of the event, we saw radio and television journalists and technicians using the AEQ TLE-02D, the little brother of the AEQ MPAC 02D. While the TLE-02D is light, fast and very moderately priced, it offers quality and reliability that have been well proven in recent years.



### CADENA COPE. SPAIN.

6 Eagle ISDN codecs for its main facilities.  
18 TLE-02D portable hybrid and ISDN audiocodec.



### ONDA REGIONAL MURCIA. SPAIN.

5 Eagle ISDN codecs for its main TV and Radio facilities  
3 TLE-02D portable hybrid and ISDN audiocodec,  
1 SWING portable hybrid and ISDN audiocodec



### MEGA MUSIC SPOLKA. POLAND.

2 TLE-02D portable hybrid and ISDN audiocodec,  
3 MPAC-02 portable hybrid and double ISDN codec.



### PROYECTOS TECNICOS INTEGRALES. SPAIN.

16 Eagle ISDN codecs to be integrated in several media project in Spain.  
17 TLE-02D portable hybrid and ISDN audiocodec,  
13 SWING portable hybrid and ISDN audiocodec  
2 multicodec COURSE.

### ONTEC. US.

24 MPAC-02 portable hybrid and double ISDN codec.



### Torino 2006 .. ITALY.

Course and Eagle ISDN codecs. Transmissions on the International Side were integrally carried out through ISDN AudioCodecs. On the international Side Supplementary contracts was awarded to AEQ for the same type of equipment from EBU Sports (European Broadcasting Union) and were distributed throughout the World among the EBU Members and other Broadcasters that contracted this service from EBU Sports.



### RADIO CADENA COMERCIAL. COLOMBIA.

1 SWING portable hybrid and ISDN audiocodec

### RADIOTELEVISÃO CABOVERDIANA. CAPE GREEN ISLANDS

Radiotelevisão Caboverdiana has purchased 2 Eagle's for its communications between facilities.



### Dynamo Moscow sports pavilion .. RUSSIA.

Course ISDN codecs. In order to send a top quality signal to be broadcast by radio and television from the new Dynamo Moscow sports pavilion, a complete AEQ DCS-10 commentary system was installed as well as a COURSE multicodec with 10 two-channel audio codecs



### RNA. ANGOLA

Angolan National Radio RNA . TLE 02, Eagle, Swing and Course ISDN codecs

AEQ is equipping the studios, central control rooms, automation system, editorial office, outside broadcasting equipment, laboratories and other technical facilities for Angola's National Radio. The main facility in Luanda and 11 regional centers are being completely renovated, and new equipment is also being added to other regional centers. Also Inmarsat OB Vans and reporter units with GSM links.



- Central controls include reception and talkback with reporters and mobile units via satellite, radio, GSM and POTS telephones through Eagle codecs
- There is a Multichannel audio and data link via radio between two local production centers with Course codecs and Ranger Multiplexers
- Broadcast live audio material Systems via Inmarsat telephones and AEQ SWING codecs, through conventional telephone lines, by GSM and TLE 02 codecs or file transfer.



#### ALGHAD FM. LEBANON.

4 Eagle ISDN codecs for its main facilities



#### EUSKAL IRRATI TELEBISTA. SPAIN.

9 Eagle ISDN codecs for its main facilities  
 7 TLE-02D portable hybrid and ISDN audiocodec,  
 1 SWING portable hybrid and ISDN audiocodec  
 1 multicodec COURSE



### All India Radio (AIR). INDIA.

Swing and Course ISDN codecs AEQ supplied 65 SWING portable codecs to be used for outside broadcasts by All Indian Radio, a government radio station.

**Prasar Bharati**  
All India Radio

### TV AZTECA Course ISDN codecs. MEXICO.

Mexico's TV Azteca has purchased an AEQ SYSTEL Multiplexing System with Course codecs



### CANAL NOU . SPAIN

VALENCIA CANAL NOU TELEVISION INSTALLS AN AEQ SYSTEL 6000 COMMUNICATION SYSTEM WITH 12 CONTROL STATIONS AND COURSE Multicodec

This system at Canal Nou has capacity for 20 simultaneous contributions which can be multiplexed together as required. The multi-station control allows users to have as many lines as they need at their disposal at all times through any of the control stations.



### SEOUL BROADCASTING CORPORATION. KOREA.

1 MPAC-02 portable hybrid and double ISDN codec.

### RPTA. SPAIN.

ASTURIAS RTPA TELEVISION & RADIO INSTALLS AEQ SYSTEL 6000 WITH COURSE Multicodec

Both radio and television communications are handled through the SYSTEL 6000 system using touch-screen terminals.



### **TV1 TELEVISION HOUSE. NEW ZEALAND.**

2 TLE-02D portable hybrid and ISDN audiocodec,

### **“ONDA CADIZ” RADIO, SPAIN.**

The studios now have various digital audio sources, AEQ EAGLE audio codecs and AEQ TH02EX digital hybrids, AEQ has also supplied outside broadcasting equipment needed for event coverage: AEQ PAW 120 digital recorders, AEQ SWING ISDN/POTS broadcasting equipment, AEQ LIVE 20 high powered radio microphones with talkback, as well as the AEQ ARROW RF equipment for outside broadcasts



### **RADIO GLOBO. BRAZIL.**

5 Eagle ISDN codecs for its main facilities

### **RADIO PLANETARIO. BRAZIL.**

1 SWING portable hybrid and ISDN audiocodec

### **RADIO EUSKADI EITB, IRUÑA, EAGLE AND SWING CODECS. SPAIN.**

The division of EITB in Navarre has equipped its studio with three AEQ EAGLE ISDN dual-line codecs

## 2005

### **CADENA COPE. SPAIN.**

5 Eagle ISDN codecs for its main facilities.  
15 TLE-02D portable hybrid and ISDN audiocodec,



### **EUSKAL TELEBISTA. SPAIN**

10 Eagle ISDN codecs for its main facilities  
1 TLE-02D portable hybrid and ISDN audiocodec,  
2 multicodec COURSE.



### **RTS (Serbian Radio and Television). Eagle and Swing ISDN codecs. SERBIA.**

The Eurobasket Belgrade 2005 European Basketball Championship was broadcast with AEQ Swing codecs RTS (Serbian Radio-TV), Host Broadcaster for Eurobasket Belgrade 2005, has acquired 30 AEQ Swing portable ISDN audio codecs and five AEQ Eagle rackmounted ISDN audio codecs for the transmission of the European Basketball Championship held in the Serbian cities of Belgrade, Novi Sad, Vrsac and Podgorica between 16th and 25th September 2005.

Additionally AEQ supplied 5 Eagle ISDN rackmounted codec for connection between facilities with professional audio quality.



### **RADIO GLOBO. BRAZIL.**

5 Eagle ISDN codecs for its main facilities



### **ESPN Course, Eagle and Swing ISDN codecs. US.**

ESPN is an active AEQ customer using the full array of AEQ ISDN codecs, including the Course (a multicodec capable of handling up to 10 audio codecs in a 4U rack chassis), the Eagle (the popular 1U audio codec) and the Swing (our portable ISDN codec with a built in telephone hybrid and mixer).



ESPN found the E@sy remote control capability in the AEQ audio codecs very useful to control their multiple ISDN lines. Shortly after installing the AEQ audio codecs, the engineering department requested a simple modification in the RTC software.

The request was to make the call termination a two-step process to avoid involuntary call hang-up. AEQ implemented this request very quickly. The second change requested by ESPN for the RTC software consisted the addition of line labeling capability in the software, this making the line identification easier for the operator.

The Course has been especially useful as a tool for remote management and production in their environment.

**AUDIO VIDEORACCORD. SPAIN.**

10 Eagle ISDN codecs for its main facilities

**RADIO TELEVISION MAROCAINE. MARROC.**

10 Eagle ISDN codecs for its main facilities

**MEGA MUSIC SPOLKA. POLAND.**

2 SWING portable hybrid and ISDN audiocodec



**TELEVIZIJOS IR RYSIO SISTEMOS . LATVIA.**

1 Eagle ISDN codecs for its main facilities  
2 SWING portable hybrid and ISDN audiocodec



**GLOBECAST UK Limited, UK**

GLOBECAST UK a subsidiary of France Telecom . **Eagle and Swing ISDN codecs**

Digital audio Studio includes AEQ Eagle ISDN codec and an AEQ Swing portable ISDN/PSTN mixer for outside broadcasts. The first live programming from the new studio was providing trackside coverage as part of a facilities & production provision package on behalf of Haymarket Publishing for Autosport Radio Le Mans, the official English language station of the Le Mans 24 Hour Race. This made full use of the AEQ ISDN codecs.



**ALFACAM. BELGIUM.**

15 MPAC-02 portable hybrid and double ISDN codec.

### VEELINE MEDIA. INDIA.

42 MPAC-02 portable hybrid and double ISDN codec.



### SOCIEDAD EUROPEA UNIDADES MOVILES. SPAIN.

40 MPAC-02 portable hybrid and double ISDN codec.

### RAI. ITALY.

Course and Eagle ISDN codecs for RAI Bornio

RAI Expands its AEQ Multicodec Systems for the FIS Alpine Skiing World Championships in Bornio (Italy). To satisfy the demand for commentators' audio signals for the FIS Alpine Skiing World Championship in Bornio, RAI has bought two new AEQ Course multicodec systems.



Mr. Rombaldoni of RAI outside broadcasts said: "Since they were launched four years ago, the Course systems have been used as our standard production tool for outdoor locations, but the unexpected demand from radio broadcasters who use ISDN transmissions for their dedicated commentary signals made seeking an increase in our ISDN transmission capacity inevitable".

### MADRID REGIONAL RADIO. SPAIN.

6 TLE-02D portable hybrid and ISDN audiocodec,  
1 Eagle ISDN codecs for its main facilities



### VAV PRODUCTIONS. SPAIN.

7 Eagle ISDN codecs for its OB VANS.



### VATICAN RADIO AND TELEVISION . ITALY.

Eagle ISDN codecs.Vatican Television Installs Permanent Commentator Positions in Saint Peter's Basilica. A total of five permanent commentator positions were installed to facilitate coverage of the services and ceremonies held inside the Basilica. The Vatican also acquired two Eagle ISDN codecs to send the programs to destination stations



### ALL INDIA RADIO (AIR) DELHI. INDIA.

Buys 42 AEQ MPAC- 02 portable codecs and 42 AEQ Eagle rackmounted codecs for its foreign satellite broadcasting service

**Prasar Bharati**  
**All India Radio**

Via consulting firm WEBEL, AEQ and its local representative, Falcon Technologies, supplied these products for AIR's 42 regional facilities, so that each facility can send and receive, in high quality, news of external events through full duplex Nera digital transponders. This deal was valued at around half a million US dollars.

The AEQ MPAC 02 converts the audio at microphone or line level to a 64Kbps data stream sent to the portable Nera satellite uplink. This is received, via satellite and then the data stream is converted by the AEQ Eagle, codec into analogue and digital AES/EBU audio to the central control room. Return feeds are sent back to the remote site for decoding by the MPAC-02.

### SERVICIO EMP AUDIOVISUAIS. PORTUGAL.

5 Eagle ISDN codecs for its main facilities

### EMISORA CULTURAL UNIVERSIDAD. COLOMBIA.

10 Eagle ISDN codecs for its main facilities

### RTM MOROCCO.

In Rabat . Course ISDN codecs. The heart of the system is an Impact 2x120x120-circuit digital audio routers, plus a 10-card Course codec, controlled through a network of nine workstations with the Impact+ and Systel 6000 applications for the contributions from regional stations. It facilitates mobile and temporary communications for the live broadcast of outside events. Communications are managed through the Systel 6000 application, operated from each of the control centers or from the MDC's control console.



### Botswana National Radio BOTSWANA.

Swing ISDN codecs. AEQ has equipped Botswana National Radio's foreign transmission unit with Swing Codecs.

### SABC. SOUTHAFRICA.

SABC (South African Broadcasting Corporation) has increased its complement of Eagle codecs. SABC began acquiring AEQ communications equipment more than a decade ago, starting with the now superseded MP10 portable mixer.



### RADIODIFFUSAO PORTUGUESA. PORTUGAL.

5 Eagle ISDN codecs for its main facilities  
8 TLE-02D portable hybrid and ISDN audiocodec,

### KOREAN BROADCASTING CORPORATION. KOREA.

2 MPAC-02 portable hybrid and double ISDN codec.



### RADIOTELEVIÇÃO CABOVERDIANA . CAPE GREEN ISLANDS.

Radiotelevisão Caboverdiana has purchased 3 Eagle's and 3 TLE 02 D for its mobile communications

### GRUPO ACIR. MEXICO.

Course, Eagle and Swing ISDN codecs. Grupo ACIR, a multi-station site located in Mexico City, under the direction of Chief Engineer Mr. Barrientos, they now have a Systel 6000 with two racks, which gives them capacity for some 30 simultaneous contribution links for multi-conferencing, talk shows and continuous links with the Group's own stations and associated stations.

For outside broadcasts they use AEQ Swing codecs and rackmounted AEQ Eagle codecs for the permanent studio locations.



### IB3 RADIO. SPAIN.

IB3 Radio de les Illes Balears in Palma de Majorca, Minorca, and Ibiza.  
Course, Eagle and Swing ISDN codecs

Equipment and communications for mobile units used in outdoor broadcasting.

In Palma (Majorca), there is a central control room with Course codecs with Systel 6000 software. The other locations have Eagle codecs and for mobile use, Swing portable codecs.



- 6 Eagle ISDN codecs for its main facilities
- 4 TLE-02D portable hybrid and ISDN audiocodec
- 2 SWING portable hybrid and ISDN audiocodec
- 2 MPAC-02 portable hybrid and double ISDN codec.
- 1 multicodec COURSE.

### **RADIO NACIONAL ESPAÑA. SPAIN.**

50 TLE-02D portable hybrid and ISDN audiocodec,  
1 multicodec COURSE. Up to 10 different communication modules in just one rack.



### **CANAL SUR RADIO SPAIN.**

12 Eagle ISDN codecs for its main facilities in Seville



### **TSF RÁDIO JORNAL . PORTUGAL.**

TSF Rádio Jornal in Lisbon Course, Eagle and Swing ISDN codecs

Radio Jornal is a prestigious national FM and on-line ([www.tsf.pt](http://www.tsf.pt)) radio broadcaster with emphasis on news. A significant part of its reporting equipment comprises AEQ Swing codecs and Course multi-codecs. The Portuguese broadcaster has been using a Systel 3000 with eight analogue lines for debates and sports coverage daily for the past 12 years without a single breakdown. Radio Jornal replaced it with the new AEQ Systel 6000 .

