

## ✈ Airport Applications

### Inside:

✈ **500ACS Hardware**

✈ **Microphone Stations**

✈ **Courtesy Announcement System™ (CAS)**

✈ **Flight Announcement System™ (FAS)**

✈ **VIS - Synchronized Audio and Visual Messages**

✈ **Ambient Analysis System**

✈ **Monitor/Test System**

*Communicate Better With Your Customers  
- Take Control of Announcement Quality*

### WHAT IS IT?

With the thousands of customers who move through your airport each day - whether they're on business trips, vacations, or guests from foreign countries - you need the 500ACS Announcement Control System from Innovative Electronic Designs to improve communication quality and efficiency.

Easy to install and use, the 500ACS is a multi-function system that includes digital signal processing, powerful software, high-quality microphone stations, and - as always - incredible sound from the leader in audio management tools.

### **Improve Airport Communication With These - and More - Major Features**

- Ethernet communications through the IED 590R computer, compatible with Windows XP, 2000, and other Windows operating systems
- Wide bandwidth, low distortion audio to maintain superb sound quality
- IED's 500 and 508 Series microphone stations, flexible and programmable, available in a number of microphone and mounting styles
- Small, high efficiency power amplifiers that provide increased system reliability at a significantly lower operating cost
- Twenty-six hours of storage available for pre-recorded messages
- Flight Announcement System™ and Courtesy Announcement System™ software to deliver important information to your customers
- Flight Announcement System available in English, French, Spanish, and German
- Ambient Analysis System automatically increases sound levels *in real time* in areas that become busy and noisy
- Monitor/Test System allows testing all parts of the system from the microphone stations to - and including - the speakers
- Text of all announcements can be displayed simultaneously on Visual Information System™ (VIS) screens throughout your airport to provide a means of meeting the design requirements of the Americans with Disabilities Act (ADA)



# Airport Applications

## WHAT MAKES UP THE 500ACS PACKAGE?

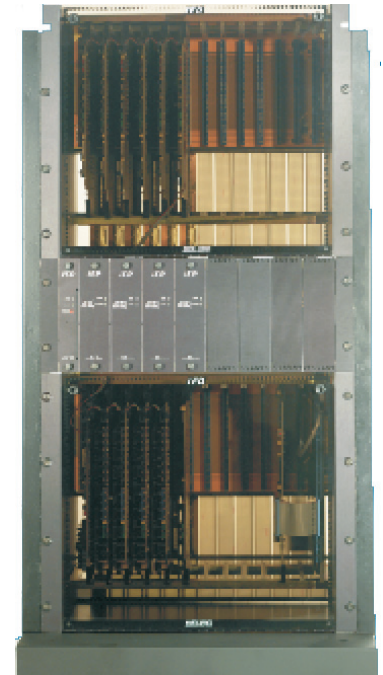
### *The Hardware:*

**500ACS Mainframe** - You get total audio quality with the modular components of the 500ACS mainframe. It contains space for cards so you can build a system based on your needs. Plus the system is expandable for when your needs change. The components include:

- 500C Microphone Station Interface card
- 500R 8-Channel Digital Record/Playback card
- 500D Zone Output card
- 510CPU Processor/Hard Drive card
- Optional redundant Processor/Hard Drive card
- Pluggable terminals for ease of installation and service.

**590 Computer** - Pentium processing and Ethernet communications power are standard for the 500ACS with the 590 Computer which contains:

- 631 Announcement Control System Software
- Flight Announcement System Software
- The 590I card to run PA422 communications for the Monitor/Test and Ambient Analysis Systems
- 590A card for test tone output, the 596 audio in/monitor out, and fault closures



**Microphone Stations** - IED's 500 Series microphone stations provide access to the system with efficiency, ease of use, and high quality audio. Use them to:

- Make pages and announcements to individual zones or groups of zones, such as a gate or baggage area, a concourse or even the entire terminal
- Record announcements
- Play pre-recorded messages stored in the 500ACS

And you get more choices in mounting styles, microphone types, expansion capabilities, and programming selections . . . all adaptable to your airport.

**500 Series** - Each 500 series microphone station contains four buttons that you program through the 631 Announcement Control System Software. You can program buttons to make live announcements, record messages, and play back a stored message. The hand-held microphones have a push-to-talk switch which gives an additional selection.

**508 Series** - Has the same capabilities as the 500, but includes an expanded keypad and an LCD display. You can use the 508's keypad to access any zone or zone group, or to play specific messages. It also supports the use of the Flight Announcement System to access and playback pre-recorded flight information.

# ✈ IED Model 500ACS

## Both Series Come in These Microphone Styles:

- Gooseneck
- Hand-held with switch

## And These - Plus Other - Mounting Styles:

- Horizontal or vertical flush mount
- Horizontal or vertical surface mount (508 series, ergonomically angled for LCD display and ease of keypad use)
- Rack mount
- Desktop
- Locking Door



500DT-G



508VFM-H



500HFM-H

500 Series and 508 Series microphone stations both have backboxes available which allow either surface mounting or flush mounting. The two 45 degree angle boxes for the 508 Series are both surface-mount only.



508SRM-H

Has self-powered monitor speaker with volume control



500FME-H

**Expansion Stations Available**, added to either a 500 or 508 station, for pages and announcements within a single area.



508VFM-H mounted on 508VBB (vertical back box)

**Typical 500ACS Block Diagram**

With 590 Computer,  
540 Ambient Analysis System,  
and 596 Monitor/Test System

**LEGEND**

- Test Point
- ◁ 596SGFI Speaker Circuit Sensor

Various IED  
Microphone  
Stations

**Typical VIS Displays**

**BAGGAGE CLAIM: C2**  
Welcome to  
**KANSAS CITY**

FLIGHT	AIRLINE	ARRIVING FROM
2206	American Eagle	Houston, Hobby
812	Delta Airlines	Pittsburgh
9622	American Airlines	San Francisco

You are approaching  
the security  
checkpoint area. The  
metal detectors are

Welcome to Philadelphia

Cityville Conditions  
UV Index: 7 High  
Wind: South 14 mph  
Dew Point: 63°F  
Humidity: 52 %  
Visibility: Unlimited

**81°** PARTLY SUNNY

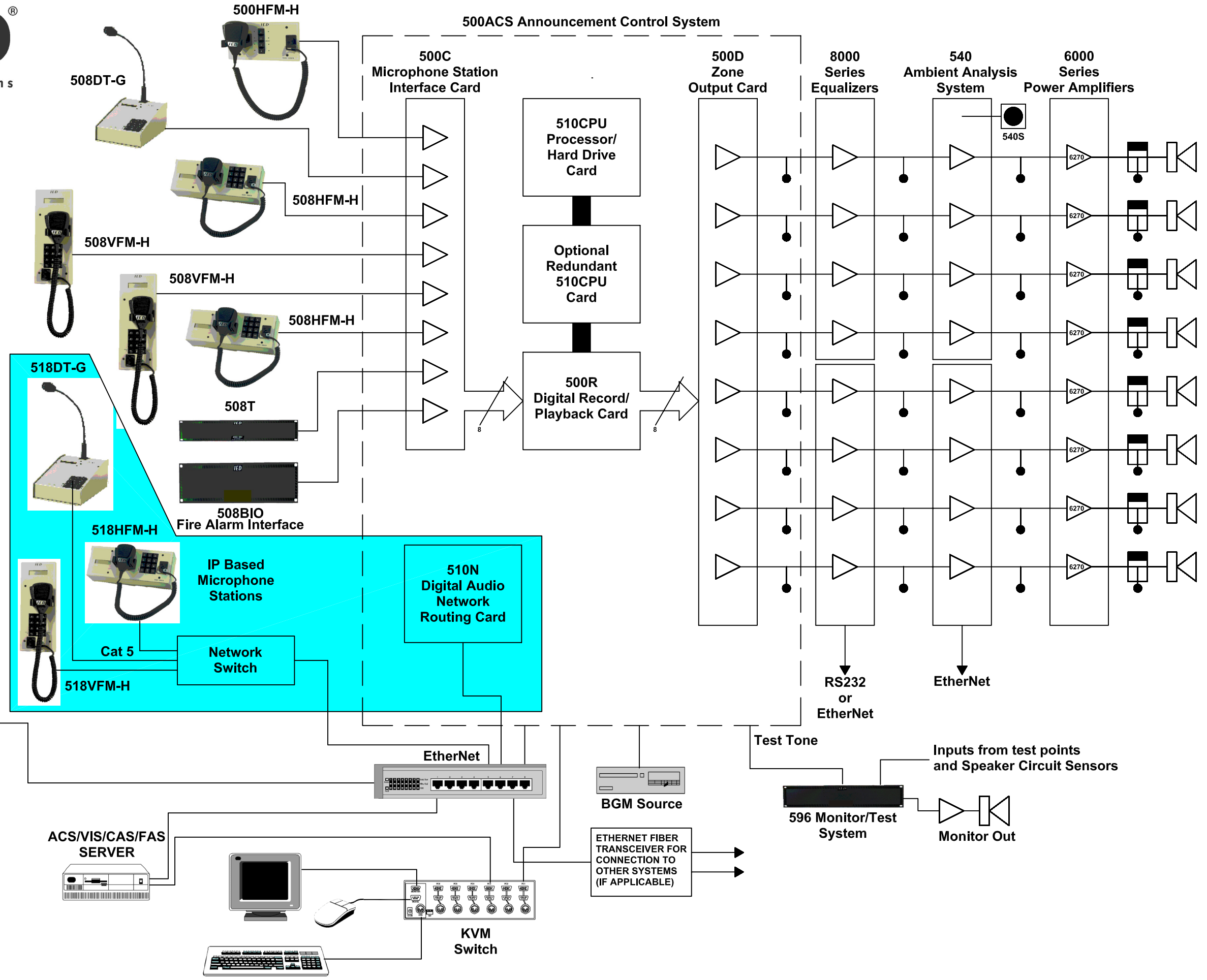
Your baggage can be claimed at Carousel A7

You are approaching the  
**SECURITY CHECKPOINT**

Please remove all metal objects  
and place them in the tray.

If you have a laptop computer please remove  
it from your bag. Please place it and  
your other possessions on the x-ray.

Thank you for flying Louisville International Airport!



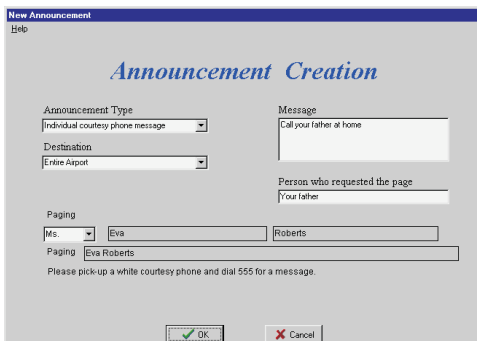
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## The Software


**IED 631 Announcement Control System** - This is the main software package that allows you to set and monitor all the parameters for your ACS: microphone stations, zones and zone groups, message playback, and settings for the Monitor/Test system.

**The Courtesy Announcement System** - A Windows® application that assists in making courtesy phone and other types of announcements. These announcements can play multiple times until the message is retrieved.

CAS allows you to keep detailed records of when, for whom, and how often an announcement was played. It also maintains an archive of *all* announcements from **all** CAS stations, which you can store or print on demand.



The screenshot shows a dialog box titled "New Announcement" with the subtitle "Announcement Creation". It contains several input fields: "Announcement Type" (dropdown menu with "Individual courtesy phone message" selected), "Destination" (dropdown menu with "Entire Airport" selected), "Message" (text area with "Call your father at home"), "Paging" (dropdown menu with "Ms." selected), "Name" (text field with "Eva Roberts"), and "Person who requested the page" (text field with "Your father"). There are "OK" and "Cancel" buttons at the bottom.



The screenshot shows a dialog box titled "Record and Playback" with the subtitle "Recording and Playback". It contains a large text area with the message: "Paging Eva Roberts. Paging Ms. Eva Roberts. Please pick-up a white courtesy phone and dial 555 for a message." Below the text area, it says "Announcement will play to: Entire Airport". There are "Announcement Status" and "Recording Finished" buttons. To the right, there are "Repetitions" controls: "Total Plays" (spinner box with "3") and "Time Between Plays (minutes)" (spinner box with "10"). There are "Begin Record", "Play", "OK", and "Cancel" buttons at the bottom.

Regardless of where you receive requests for pages or make announcements - Airport Information Center, Individual Information Desks, Travelers Aid stations, or Security Office - CAS can simplify and manage the entire process.

**Flight Announcement System** - FAS assembles flight announcements from pre-recorded audio phrases called "takes" based on flight information for the airlines at your airport. It frees airline staff at each gate from making flight announcements, and allows them instead to focus on serving their customers, especially during peak travel times.

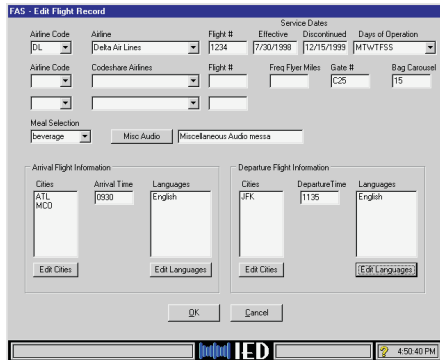
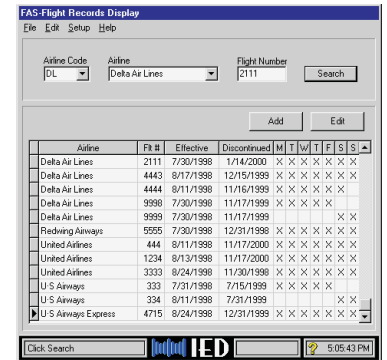
You can make these and other types of announcements with **FAS**:

- Pre-Boarding
- Early-Boarding
- General Boarding
- Final Call
- Arrival
- Baggage Claim
- Gate Change
- Delayed Flight
- Canceled Flight

# IED Model 500ACS

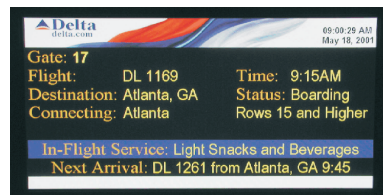
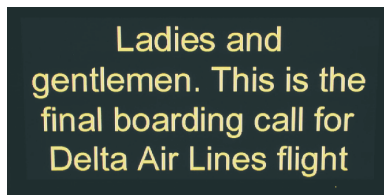
Announcements are available in English, Spanish, French, and German, with more languages to be added soon.

FAS also has the ability to query and synchronize to select FID, BID, and MUFIDS systems to automatically update flight records.



The main three components required for FAS are the FAS software, the FAS audio takes, and the IED 508 Series microphone station, which includes a numeric keypad and an LCD readout. The airline staff uses the 508 keypad to enter the prompted information, such as the flight number. The software then processes the data to assemble the proper takes and play the announcement.

The 500ACS may be expanded to include Visual Paging. By adding the Visual Information System (VIS), the exact text of each announcement is displayed - in sync with the audio - on LED graphic displays in the area of the announcement. So even customers outside the gate waiting areas (using a telephone, getting coffee, buying a newspaper, etc.) can still see a flight or other announcement. The VIS also displays announcements in the same multiple languages as the



FAS and provides a means of complying with the Americans with Disabilities Act (ADA).

Also, VIS has graphical animation capability to play greetings for special groups and visitors, play advertisements, which will generate revenue for your airport, and provide gate and baggage information displays.

## KEEP IT CLEAR - KEEP IT WORKING

Your 500ACS may also be installed with two additional components that make sure all announcements are heard and that the system is functional at all times.

**540 Ambient Analysis System** - This function continuously monitors noise levels and automatically *in real time* raises the sound of announcements proportionally in areas that become busy and noisy, such as gates and baggage claim areas. Once the noise level decreases, the announcement level returns to normal.

# Created, Developed, and Supported by IED

**596 Monitor Test System** - Diagnostic software that lets you thoroughly test the integrity of the system, from microphone stations to, and including, the speakers and speaker wires. It also allows you to audibly listen to all tested parts of the system.

**6000 Series Power Amplifier** - *Big power in a small space, featuring all plug-in components.* Contains an integral switching-mode power supply that provides for higher efficiency, increased reliability, stability under all load conditions, and improved performance all at significantly lower operating costs. When used in conjunction with the Monitor/Test System, the 6000 Series Power Amplifier can be provided with automatic backup switching in case an amplifier fails.

## IED's 500ACS GIVES YOUR FACILITY TOTAL, QUALITY AUDIO CONTROL THROUGH:

- Mainframe components that allow you to create a system based on your needs today and tomorrow
- Programmable microphone stations in two models and various mounting styles
- Courtesy Announcement System to get messages to your customers
- Flight Announcement System, which assembles and makes all types of flight announcements
- VIS technology that displays word-for-word text of all announcements on screens
- Monitor/Test and Ambient Noise Analysis Systems make sure your equipment works and announcements are heard

### SYSTEM SPECIFICATIONS

#### TEST INPUT TO ANY OUTPUT

Frequency Response (20 Hz - 20 kHz, +4 dBu)	+0,-0.1 dB
Total Harmonic Distortion (20 Hz - 20 kHz, +21 dBu)	<0.02 %
Noise (22 Hz - 22 kHz filters, 50 $\Omega$ source)	<-105 dB
Gain	Unity
Maximum Input	+21 dBu
Maximum Output	+21 dBu

#### MICROPHONE STATIONS

Frequency Response (20 Hz - 20 kHz, +2 dBu)	+0,-0.5 dB
Total Harmonic Distortion (2 kHz - 20 kHz, 10 dB into compression)	<0.05 %
Equivalent Noise Input (22 Hz to 22 kHz filters, 50 $\Omega$ source)	<-98 dB
Maximum Input	+17 dBu
Maximum Output	+5 dBu
Typical Output	+2 dBu
Microphone Station Maximum Gain	18.5 dB
Total System Typical Output	+2 dBu

#### MICROPHONE STATION INPUT THROUGH A/D AND D/A CONVERTER TO ANY OUTPUT

Frequency Response (35 Hz - 7.3 kHz)	+0,-3 dB
Maximum Gain	6 dB
Maximum Input	+14 dBu
Maximum Output	+20 dBu
Total Harmonic Distortion (35 Hz - 7.3 kHz, +14 dBu)	<0.1 %
Equivalent Noise Input (Microphone input to any output, 22 Hz to 22 kHz, 50 $\Omega$ source)	<-98 dB

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