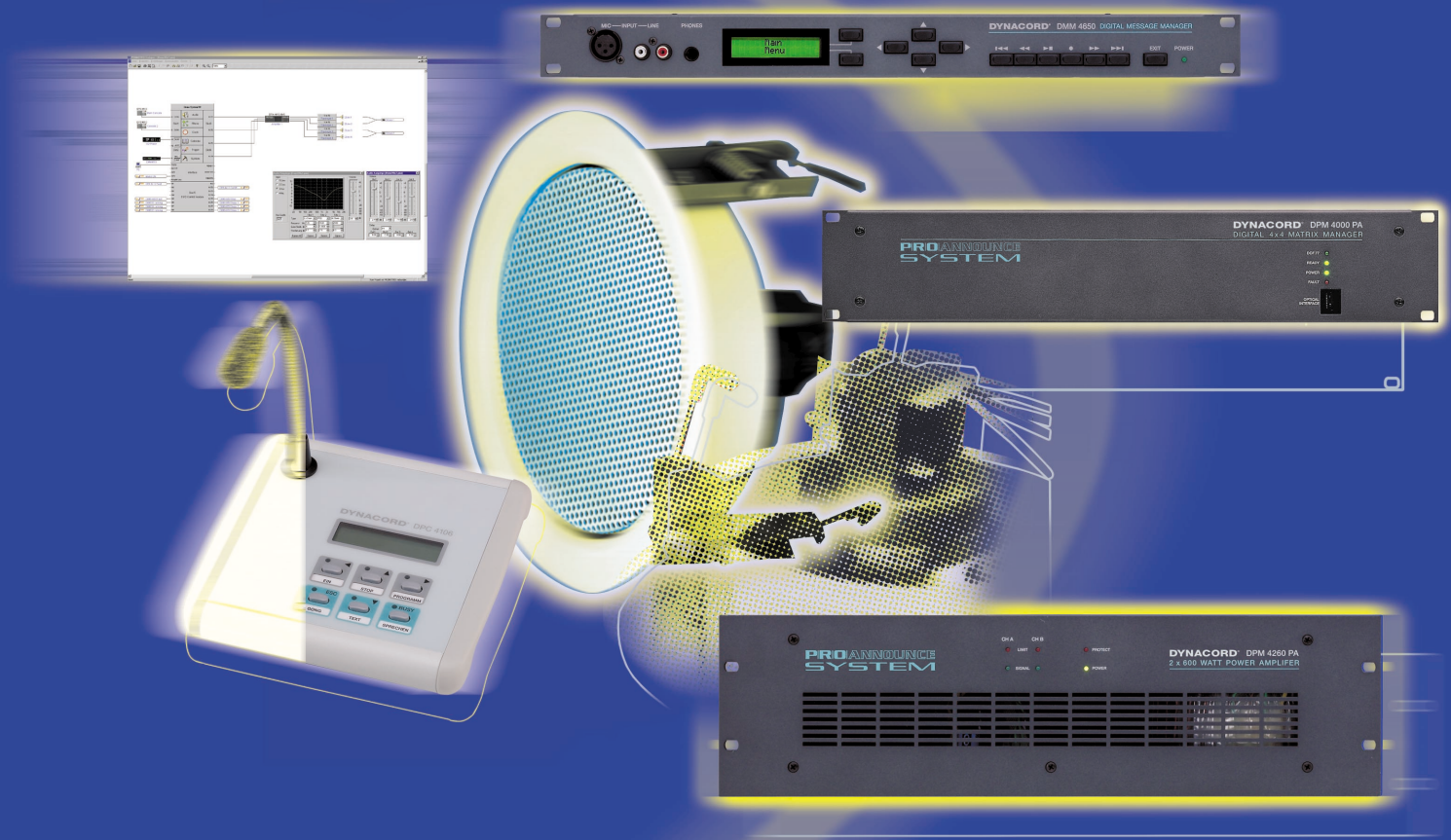
PROANNOUNCE SYSTEM®



PRIOANNOUNCE SYSTEM®

Innovations In Sound Reinforcement

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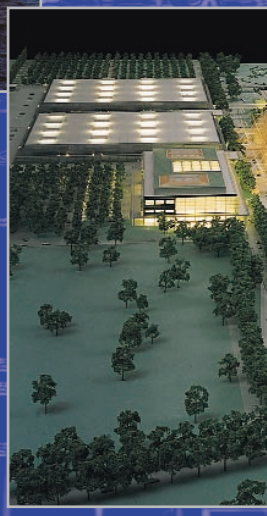
MUNICH AIRPORT

CRUISE LINER
SUPERSTAR VIRGO

DEUTSCHE BANK FRANKFURT



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DYNACORD: Worldwide Innovations

DYNACORD is the German affiliate of Telex Communications, Inc.

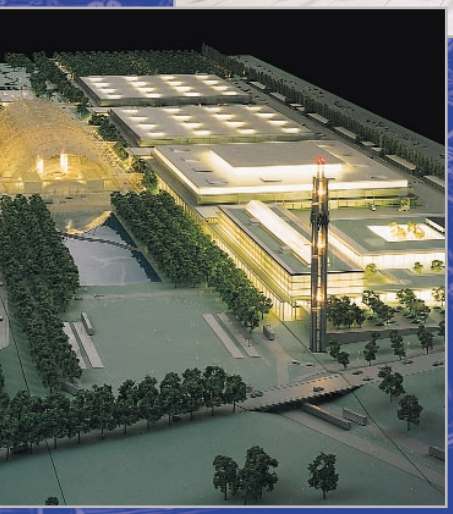
DYNACORD is the established leader in integrated solutions for the permanent installation market in Europe.

The **DYNACORD PROANNOUNCE**™ Paging System was developed to meet the demanding requirements of the European life safety and emergency communications market. Proven in hundreds of installations in live performance theaters, stadiums, cruise ships, hotels, cinemas and airports, the **DYNACORD PROANNOUNCE**™ (marketed as **PROMATRIX**® in Europe) provides an extremely high level of flexibility and reliability.

This mission critical heritage of the **PROANNOUNCE System**™ has led to a product line with all the “bells and whistles” (not to mention alarms and chimes) being built into the DMP 400 PA Central Unit. The **DYNACORD PROANNOUNCE**™ **System** from Telex has full support for 24 volt battery back-up, automatic changeover to spare amplifiers, programmmable dynamic line impedance testing, as well as more “convenience features” such as built-in multi-band EQ on each input, output delays, message stacking, and pre-recorded announcements.

The list of reference installations is quite extensive, and includes everything from 2 zone commercial installations to a 100 zone airport in Athens, to multiple cruise liner installations.

AIRFLY STATION FRANKFURT



R CENTER LEIPZIG

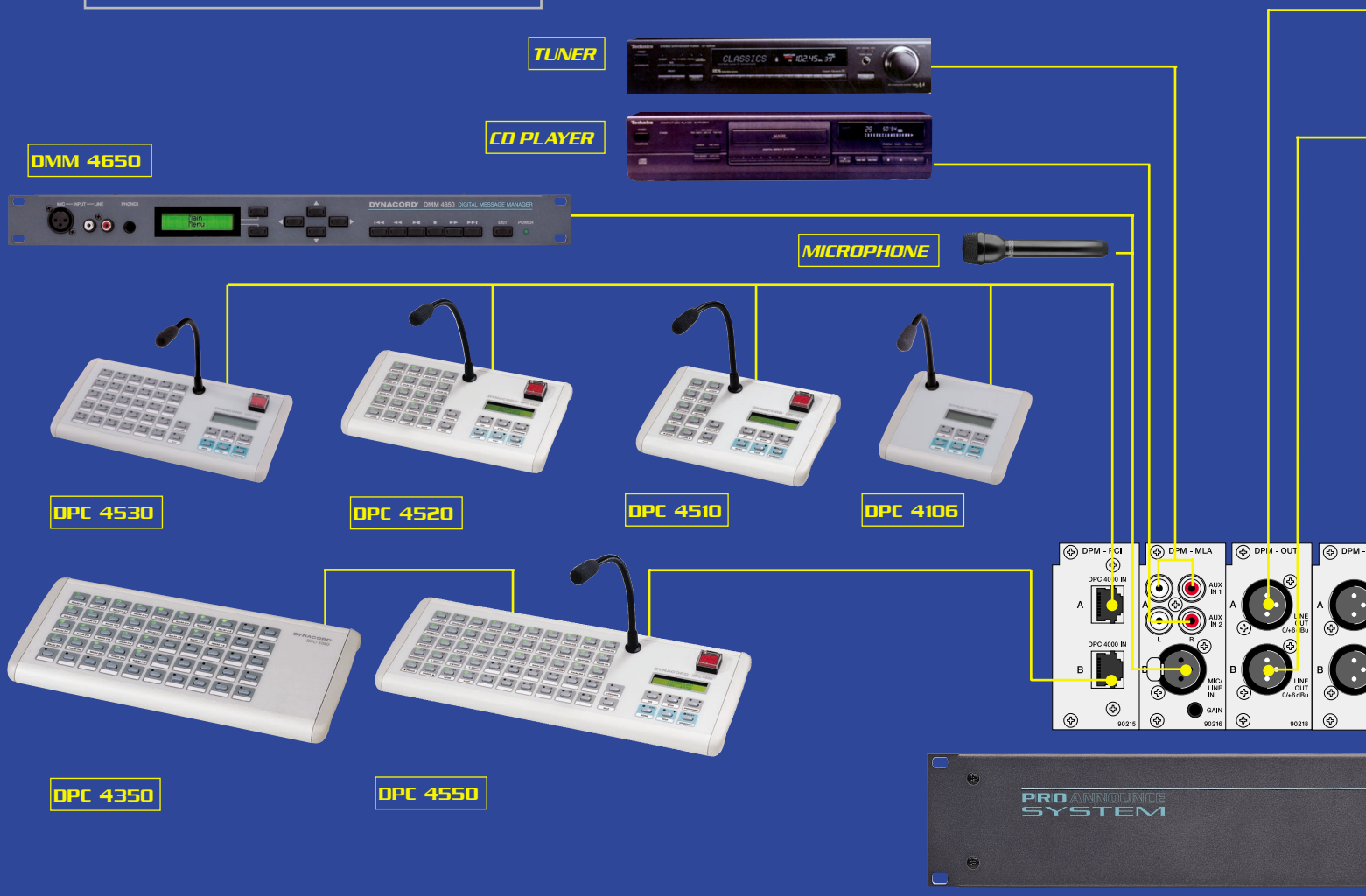
MUSICAL THEATER STUTTGART

Today's Solutions Are Based On Digital Technology

The **PROANNOUNCE System**™ is digitally based, and offers a wide dynamic range and many signal processing and control capabilities. System configuration is performed using a Windows® based PC, and once configured, the system is independent of the external computer, and retains all programming in internal non-volatile memory.
The configuration software permits complex scenarios to be EASILY programmed, using pull down menus, pick lists, and other standard Windows controls. The user or contractor simply constructs a block diagram using "drag and drop" techniques, and the system then configures the hardware to match, generates an equipment list, and stores the configuration for future reference and modification – a simple one step process!

The **PROANNOUNCE System**™ is designed and is manufactured, in accordance with the ISO 9000 regulations.The **PROANNOUNCE System**™ is part of the extensive Telex product line, which includes a wide variety of professional fixed install products marketed under the Telex, EV, **Dynacord**, Klark Teknik and MIDAS brand names – ALL sold and supported by an expert staff of SYSTEM oriented professionals, based throughout North America and the world.

System Description



The digital **PROANNOUNCE System**™ for zone paging includes a complete line of ALL required components for a COMPLETE solution, including:

- **PROANNOUNCE Manager DPM 4000 PA**
- **PROANNOUNCE Amplifier DPA 4000 PA**
- **PROANNOUNCE Paging Consoles DPC 4000**
- **PROANNOUNCE Message Manager DMM 4650**
- **PROANNOUNCE Power Supplies DPP 4000 PA**
- **PROANNOUNCE Control System DCS 400**

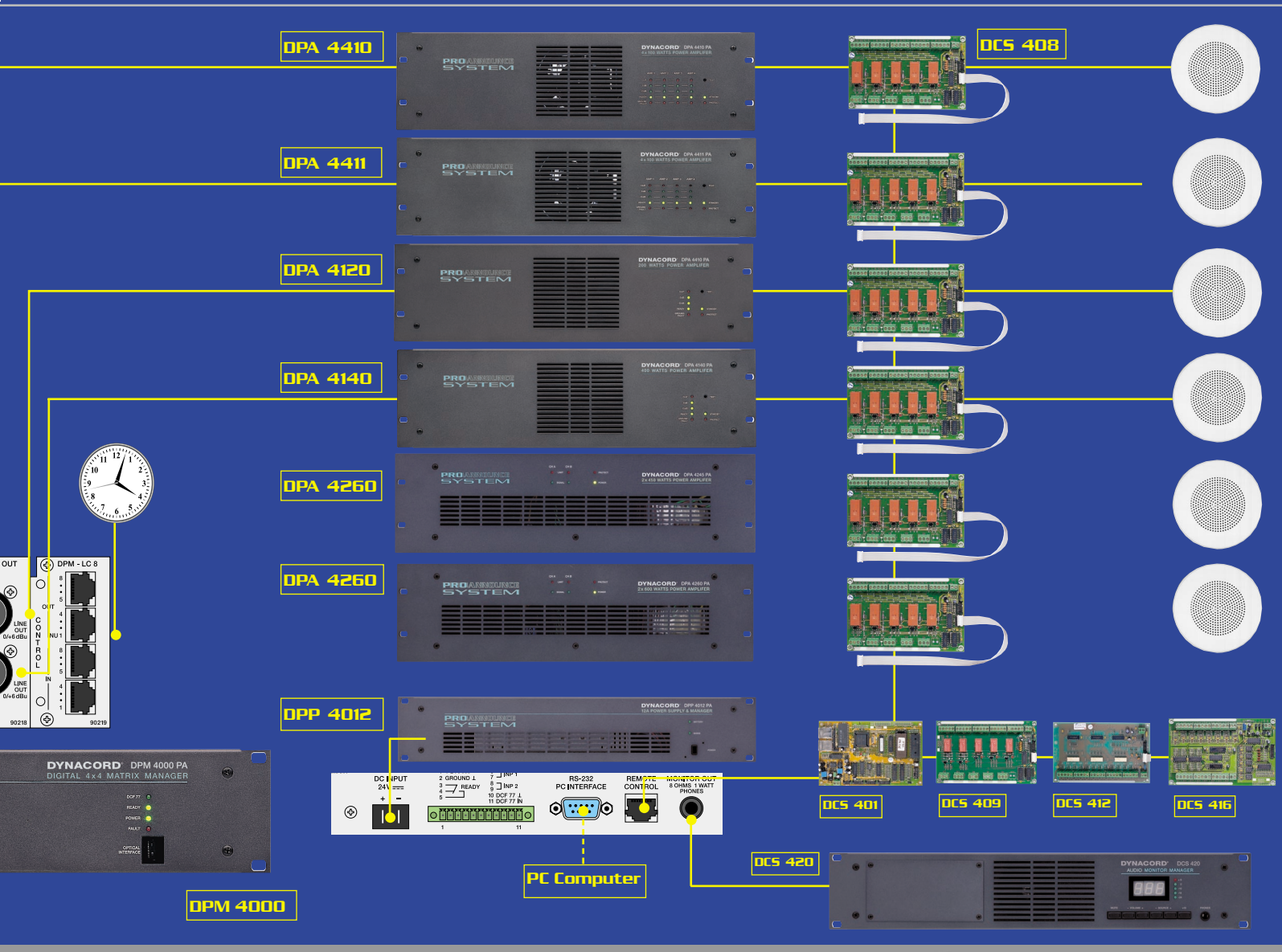
The **PROANNOUNCE** Manager DPM 4000 PA represents the core of the system. Its input slots can be equipped with several different analog inputs: paging consoles, microphone, mixer, CD-Player, AM/FM-tuner, cassette decks, etc. 18-bit A/D-converters are utilized to transform the audio signals to the digital domain: the digital "LF"-Matrix.
The output slots are equipped with 20-bit D/A-converters and provide the analog signals to feed the DPA 4000 PA series power amplifiers.
Signal control within the DPM 4000 PA is provided by an integrated 8 x 8 logic control matrix.

The second group of the **PROANNOUNCE System**™ is the DPA 4000 PA power amplifier series.
Six different models are available:

- **DPA 4410 PA** **4 x 100 watts**
- **DPA 4411 PA** **4 x 100 watts incl. Remote Control**
- **DPA 4120 PA** **1 x 200 watts, Remote-Module optional**
- **DPA 4140 PA** **1 x 400 watts, Remote-Module optional**
- **DPA 4260 PA** **2 x 600 watts**

The paging stations of the **PROANNOUNCE System®** offer several different features:

- **DPC 4106** **6 Function Keys, LCD**
- **DPC 4510** **8 Function Keys, 10 Selection Keys, LCD**
- **DPC 4520** **8 Function Keys, 20 Selection Keys, LCD**
- **DPC 4530** **8 Function Keys, 30 Selection Keys, LCD**
- **DPC 4550** **8 Function Keys, 50 Selection Keys, LCD**
- **DPC 4350** **50 Selection Keys, to extend any of the above paging consoles by another 50 keys**



All paging consoles feature a micro controller that controls unit functions. The selection keys can be freely configured for a variety of functions: e.g., single zones and group calling, in addition to internal and external control tasks. This allows the performance of virtually any GPI control function, related to paging or NOT. Additionally, this programmability allows the paging console to provide a wide variety of user-defined functions from any location.

The paging consoles have an integrated LCD display, which provides detailed information on system status and available options. User definable messages allow the console to take on a whole range of ancillary functions.

A paging system is not simply a microphone and a series of loudspeakers. In reality, it is the “face you present” to your company, visitors, customers, and the world, With this in mind, **Dynacord** offers a unit that allows you to create professional, pre-recorded messages for a large number of pre-defined situations.

- **DMM 4650 Message Manager**

A signal processor for the digital recording and playback of messages and music and the generation of gong and alarm signals.
DPP 4000 PA Series power supply units provide the power for the entire **PROANNOUNCE System™.** They also guarantee intelligent Power Management; i. e., uninterrupted mains / battery switching.
When used in conjunction with **DYNACORD PROANNOUNCE** series amplifiers, intelligent Power Management allows the ability to place the amplifiers in a low power consumption quiescent mode in between pages to stretch battery life. The power management feature can also be programmed to suspend background music and low priority messages during battery operation, in addition to generating special alarms.

Two different models are available:

- **DPP 4004 PA 24 V / 4 A**
- **DPP 4012 PA 24 V / 12 A**

The last group includes all parts of the **PROANNOUNCE** DCS 400 Control System, which are used to build entire rack-systems including all control possibilities:

- **DCS 401 Control Module**
- **DCS 408 Relay Module 100 V**
- **DCS 409 Control and LF-Relay Module**
- **DCS 412 Logic-Input Module**
- **DCS 416 Analog IN/OUT Module**
- **DCS 420 Monitor Module**

DPM 4000 PA • Digital Manager

DPM 4000 PA Digital PROANNOUNCE™ Manager

The digital **PROANNOUNCE**™ Manager **DPM 4000** is a modular, processor-controlled multi-channel audio control and signal routing system that is meant for incorporation in a wide range of professional sound applications. The **PROANNOUNCE System**™ is perfectly suited for TRUE PROFESSIONAL sound installations. Featuring a dynamic range >100 dB, excellent component and system frequency response, extensive sound shaping facilities, output delays, etc. – **PROANNOUNCE** ELIMINATES the contradiction in the expression “Professional Audio Paging System”.

The **PROANNOUNCE** designer software, which runs on Windows 95 / 98 / NT™, allows configuring all functions and parameters.

Audio signal input modules are available for connecting up to 16 paging consoles, microphones, mixers, CD-players, AM/FM-tuners, cassette decks, etc.

Each channel is equipped with a flexible, programmable audio processor that provides the following filters:

- **Lo/Hi-Shelving EQ**
- **Lo/Hi-Cut**
- **Parametric Equalizer**

All changes are displayed on the screen and can be acoustically monitored in real time. Optimizing the transmission quality (e. g., linearization, intelligibility, music reproduction and feedback reduction) can be easily achieved.
An integrated floating 8 x 8 Logic Control Matrix allows launching control functions, logic operation and programmed controls via macros.

Safety Features:
In accordance with international regulations for electro-acoustic emergency alert systems, the digital **PROANNOUNCE**™ Manager monitors itself. Regulatory approvals include CE, CSA, and UL.

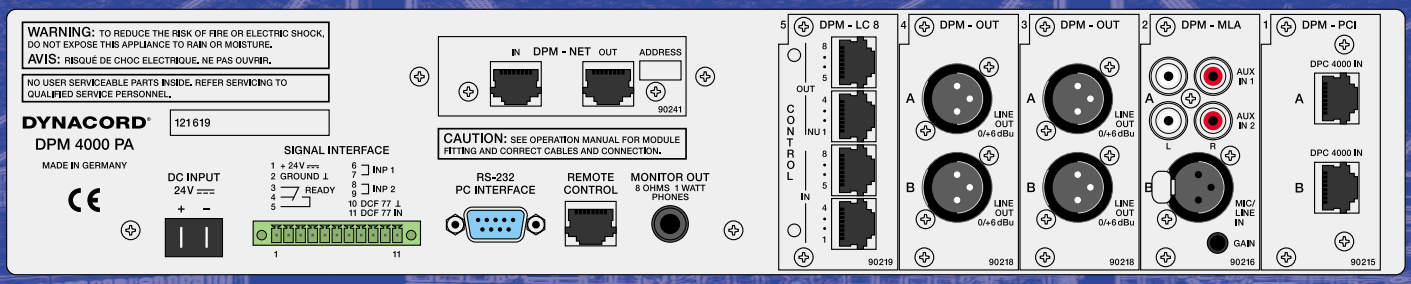
Furthermore, all connected paging stations, power amplifiers, their connection cables, and loudspeaker lines are capable of being monitored.

A RS-485 port is employed to control output relays, LF or control relays, logic inputs and analog inputs and outputs.
The optional control and monitoring of the power amplifiers (remote control) is also performed via this terminal. As an additional option, it is possible to include an automatic fault-protocol.

The same serial port used to configure the **PROANNOUNCE System**™ from a PC can be outfitted with an auto-answer modem, permitting the designer, consultant or contractor to remotely program the system, adjust configurations, and download new software features and capa-bilities.

As an option, a remote amplifier line-monitoring module is available. Designed to control and guard speaker cabling and corresponding loudspeaker systems, the line-monitoring module meets the following criteria: ground-fault according to DIN VDE 0800 regulations., line interrupt, line fault, and impedance. Periodic test cycles can be programmed; evaluation and fault-protocol is automatically performed by the **DPM 4000 PA**.

The **PROANNOUNCE**™ Manager **DPM 4000** controls messages for several zones at the same time, optionally with pre-announce chime, via its central system processor. Automatic attenuation of background music during messages with smooth fade-in when the message ends can be programmed.
Output delays (by zone) can be set to values between 0 and 330 ms, and values can be input in milliseconds, feet or meters. Paging priority and stacking is available, whereupon a message is automatically recorded and transmitted when the lines are open. Message-stacking is available in combination with the internal message recorder.



Rear View

The factory-configuration includes:

- **Digital 4 x 4 audio mixing matrix with volume controls in all inputs and outputs**
- **Internally extended matrix for signals and recording / playback**
- **Parametric 3-band equalizer in all 4 input channels**
- **Delay in all 4 output channels (optional)**
- **Digital tone oscillator for alert signals (optional)**
- **Digital tone oscillator for gong signals (2, 3, and 4 chime gong), attention gong (optional)**
- **Pilot tone generator for internal monitoring and power amplifier monitoring purposes (optional)**
- **10 control inputs, 7 control outputs; floating, freely definable functions**
- **Link options for internal and external control inputs and outputs**
- **RS-232 interface for PC-connection**
- **RS-485 interfaces for the connection of paging consoles, power amps and the DCS 400 Control System**
- **Monitor bus and monitor amplifier for power amp monitoring and internal input / output monitoring**
- **Status-LEDs for fault notification, Power, and Ready**
- **System main clock, quartz-controlled, direct connection of up to 40 slave clocks**
- **Event scheduler; 2000 individual events can be easily programmed**
- **Electronically programmable fuses for all power supply outputs**
- **Remote fault indication via READY-Relay**
- **Monitoring and protocol-support for all internal and external functions**
- **Power Management for the entire PROANNOUNCE System™**

Additional options are:

- **Direct digital recording and playback of messages with a length of up to approximately 6 minutes**
- **Modem-support for remote control and remote maintenance**
- **Interface module for DPM 4000 PA networking**

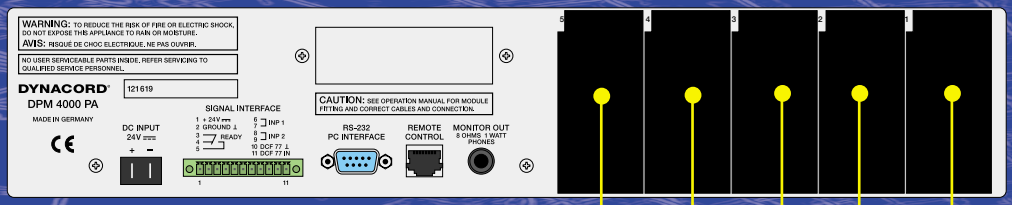
Specifications DPM 4000 PA

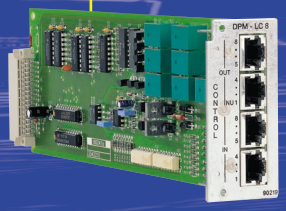
Operating Voltage	24 V DC, -10/+30 %	
Power Consumption	12 W	
Characteristics		
Audio Inputs:	electronically balanced	
Nominal Input Level	DPC	775 mV / +0 dBu
	MIC / LINE	1.5 mV..5 V / -54..+16 dBu
	AUX	250 mV..3 V / -10..+12 dBu
Nom. Input Impedance	DPC	20 kΩ
	MIC / LINE	10 kΩ
	AUX	10 kΩ
Characteristics		
Audio Outputs:	electronically balanced	
Nominal Output Level	775 mV / 0 dBu or 1.55 V / +6 dBu	
Nom. Output Impedance	115 Ω	
Frequency Response	20 Hz .. 20 kHz ± 0.5 dB	

Distortion @ 1kHz	< 0.01 %
Interference Voltage (A)	-97 dBu
Monitor Characteristics:	headphones unbalanced, loudspeaker bridging operation
Input	balanced 1.25 V / +4 dBu
Output Power Capacity	0.5 W / 8 Ω
Min. Load Impedance	4 Ω
Interface Characteristics:	
Control Inputs	≤ ± 5 V = Low ≥ ± 10 V = High
Control Outputs	floating relay contacts 1 A at 24 V DC
Slave Clock Output	24 V DC, 400 mA, short-circuit-proof
Serial Interfaces	RS-232, RS-485
Temperature Range	+5 °C .. +40 °C (41°F - 104°F)
Dimensions (W x H x D)	19“ x 3.5“ x 13.4“
Installation Depth without Connectors	13.4“
Installation Depth including Connectors	16.1“
Weight	approx. 15 lb
Finish	anthracite

DPM 4000 PA • Modules

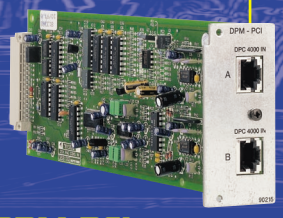
DPM Rear View / Modules





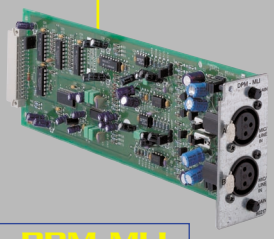
DPM LC 8
NRS 90219

DPM OUT
NRS 90218

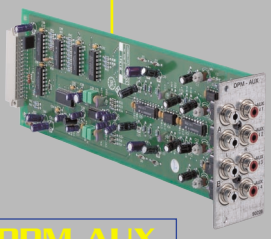


DPM PCI
NRS 90215

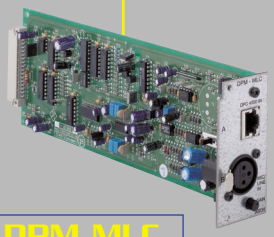
DPM MLA
NRS 90216



DPM MLI
NRS 90217



DPM AUX
NRS 90228



DPM MLC
NRS 90234

DPM 4000 PA Accessories

Inputs and Outputs:
Each input module provides two audio channels. The DPM 4000 PA detects automatically whether any of the following input modules have been inserted:

- **2-channel paging station module for connecting 2 x 4 paging consoles**
- **2-channel Mic/Line input module, incl. compressor / limiter, electronically balanced; optionally with input transformers, pilot tone function, monitor bus system**
- **2-channel Aux input module, for CD / tuner / tape; with pilot tone function, monitor bus system**
- **2-channel Mic/Line + 2 Aux input module; with pilot tone function, monitor bus system**
- **2-channel Mic/Line + paging station module; with pilot tone function, monitor bus system**

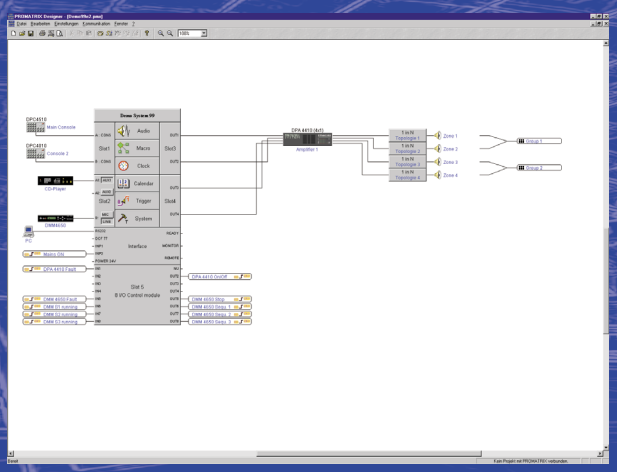
The two output slots of the **DPM 4000 PA** also provide automatic board recognition, to determine whether 1 or 2 channel output modules are present.
Additionally, the **PROANNOUNCE**™ Manager employs an additional control slot for the insertion of an 8 I/O control module, which provides 8 isolated input and 7 control outputs plus slave clock output.
The available Master-Slave interface option is meant for linking several **DPM 4000 PA PROANNOUNCE**™ Manager units in a network environment.

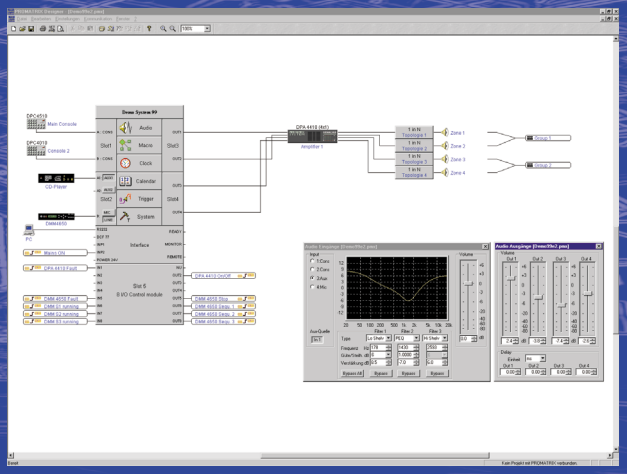
Extension-kits for the DPM 4000 PA

NRS 90215	2-channel paging console module
NRS 90216	Mic/Line + 2 Aux input module
NRS 90217	2-channel Mic/Line input module
NRS 90228	2-channel Aux input module
NRS 90234	Mic/Line + paging console module
NRS 90218	2-channel Line output module
NRS 90219	8 I/O control module

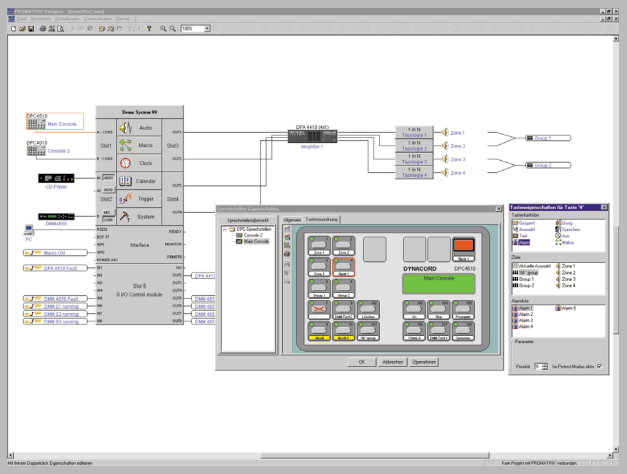
NRS 90208	Input transformer DPC
NRS 90233	Input transformer Mic / Line
NRS 90227	Output transformer
NRS 90205	Voice-message memory module
NRS 90241	Master-Slave interface

PROANNOUNCE™ System Software





PROANNOUNCE™ *Designer*



Configuration and documentation of the **PROANNOUNCE System**™ can be easily accomplished using the software interface which runs on a PC or notebook computer under Windows 95 /98 / ME / 2000 / NT™.
Altering the configuration is possible at any time without the need to change the system's actual set-up.

Additionally, saving and restoring a configuration is possible at any time.

The password protection feature prevents unauthorized access and inadvertent errors.

System configuration is possible in on-line or off-line operation. On-line system programming provides the advantage that the installed **DPM 4000 PA** modules and all connected hardware components are automatically recognized. Parameters can be transferred and directly incorporated into the PC-program.

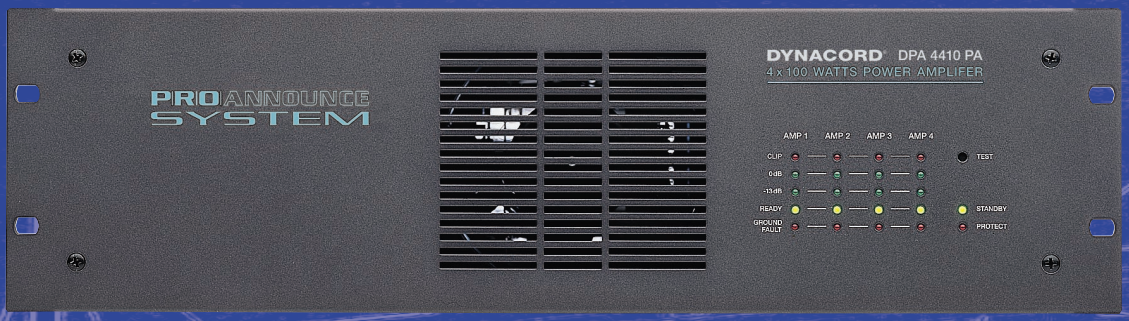
The displayed block diagram can be manually edited, and parameters can be set for all blocks in their individual windows. The configuration is automatically checked by the software which makes erroneous operation virtually impossible.

The PC needs to be connected to the system only when loading or changing a configuration; during regular operation it is not needed. Nevertheless, the PC provides the possibility for detailed indication of status information, hard copy protocols, and real-time control and monitoring functions.

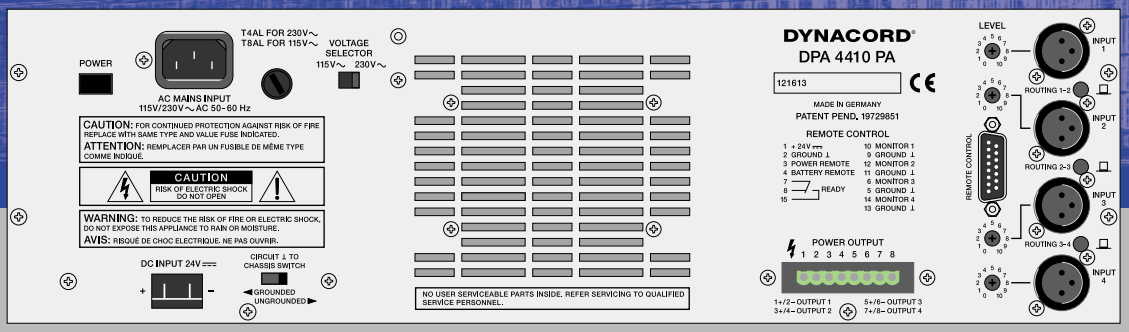
PROANNOUNCE™ *Lite*

Simple parameter changes can be carried out by using **PROANNOUNCE**™ ***Lite***, a software interface which provides the most commonly required USER adjustments. The program allows access to level settings, system clock and slave clock settings, calendar entries, block diagram display and print-out as well as elementary recording tasks.

DPA 4000 PA • Power Amplifier



DPA 4410 PA 4 x 100W Amplifier



The **PROANNOUNCE™** 4-channel power amplifier **DPA 4410 PA** provides 4 x 100 watts output power according to the IEC 268-3 standard. It is capable of driving high-impedance and low-impedance loudspeaker systems at the same time; i. e. the simultaneous operation of 70 V and 4Ω speaker systems is possible.
The intelligent output design allows following configurations of the four power outputs:

- **4 x 100 W**
- **1 x 200 W and 2 x 100 W**
- **2 x 200 W**

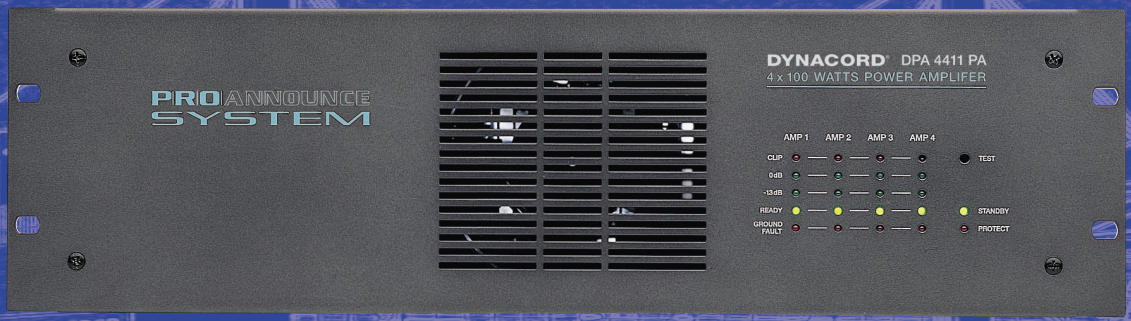
The four electronically balanced inputs are provided as XLR-type connectors (0 dBu) and can be optionally retro-fitted with input transformers. Also provided are routing switches, allowing input coupling.

Remote-starting the power amplifier is possible when it is operated on mains supply or on 24 VDC emergency power supply. It employs an initial current inrush limiter.
The **DPA 4410 PA** amplifier includes a ground lift switch to accommodate installations in facilities with less than desirable power conditions.

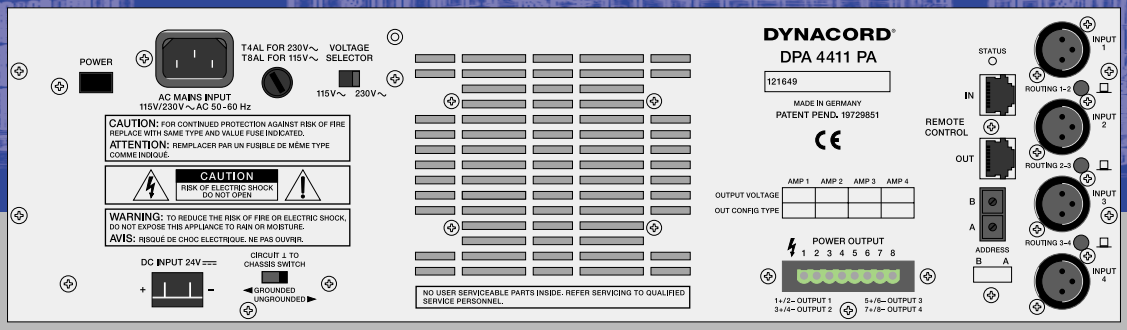
Thermal stability is obtained by an ultra-quiet, active, temperature-controlled, ventilation system. Low-noise fans permit the amplifiers to be located in any environment. The power amplifiers are idle-protected and short-circuit-proof. The four output transformers can be optionally internally set to 100 V, 70 V, 50 V, or 4Ω operation.

Front panel LED indicators display the amplifier's actual operational status (ready), standby, ground-fault, and thermal overload (protect) as well as LED-meter instruments (–13 dB to 0 dB and CLIP) provide “at a glance” system status.

Safety Features:
PROANNOUNCE™ amplifiers have been designed to meet and exceed the stringent requirements of European standards for life safety and evacuation systems. As a result, the amplifier provides an unprecedented level of failure tolerance, recovery and reporting. Pilot tone monitoring of line impedance is available, as is ground fault monitoring and over temperature reporting. **PROANNOUNCE™** amplifiers report status to the **DPM 4000 PA** controller, which can then seamlessly switch to backup amplifiers and generate user alerts. The amplifiers are 24 V ready to insure failsafe operation during power outages, and in conjunction with the **DPM 4000 PA** programming, can go into a very low power consumption quiescent mode during battery operation, “waking up” only when required for emergency alarms and announcements.



DPA 4411 PA 4 x 100W Amplifier with Remote

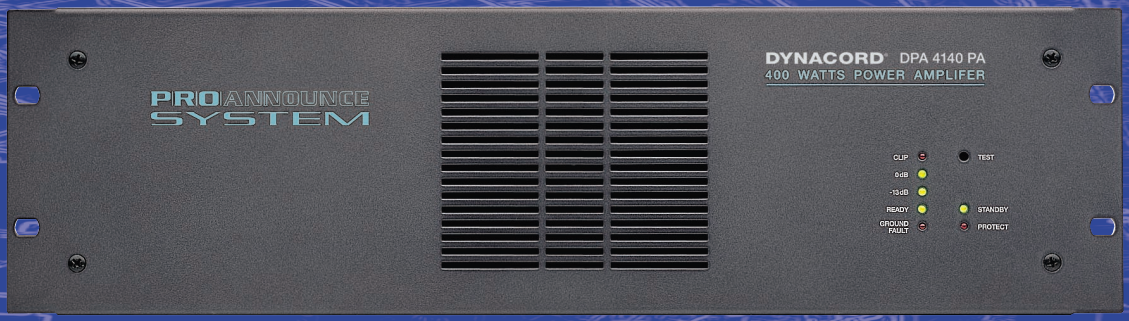


Specifications	DPA 4410	DPA 4411
Power Supply:		
Mains	115 V / 230 V AC, ±10 %	115 V / 230 V AC, ±10 %
Mains Frequency	50 - 60 Hz	50 - 60 Hz
Battery	24 V DC, -10/+30 %	24 V DC, -10/+30 %
Safety Class	I	I
Mains Power Consumption	1010 VA at nominal output 377 VA driven at -10 dB 62 VA no signal	1010 VA at nominal output 377 VA driven at -10 dB 67 VA no signal
24 V DC Power Consumption	18 A at nominal output 7.5 A driven at -10 dB 1.0 A no signal / 2.5 mA in stand-by	18 A at nominal output 7.5 A driven at -10 dB 1.1 A no signal / 2.5 mA in stand-by
Input Characteristics:	electronically balanced	electronically balanced
Nominal Input Level	775 mV / 0 dBu	775 mV / 0 dBu
Nom. Input Impedance	≥ 10 kΩ	≥ 10 kΩ
Power Output Characteristics:	balanced, floating	balanced, floating
Nominal Output Power (Mains)	4 x 100 W (acc. to IEC 268-3) 2 x 200 W configurable 1 x 200 W + 2 x 100 W configurable	4 x 100 W (acc. to IEC 268-3) 2 x 200 W configurable 1 x 200 W + 2 x 100 W configurable
Nom. Load Impedance	100 Ω / 100V 50 Ω / 70 V 25 Ω / 50 V 4 Ω / 20 V	100 Ω / 100V 50 Ω / 70 V 25 Ω / 50 V 4 Ω / 20 V
Frequency Response	60 Hz .. 20 kHz	60 Hz .. 20 kHz
Distortion @ 1kHz and Nom. Outp. Power	≤ 1 %	≤ 1 %
Interference Voltage (A)	≤ 1.2 mV / -56 dBu	≤ 1.2 mV / -56 dBu
Monitor Output Characteristics:	unbalanced	electronically balanced
Nominal Output Voltage	2 V / + 8.2 dBu	2 V / + 8.2 dBu
Nom. Load Impedance	600 Ω	600 Ω
Temperature Range	41°F .. 104°F	41°F .. 104°F
Dimensions (W x H x D)	19“ x 5.25“ x 13.6“	19“ x 5.25“ x 13.6“
Installation Depth without Connectors	13.4“	13.4“
Installation Depth including Connectors	16.1“	16.1“
Weight	49 lb	49.5 lb
Finish	anthracite	anthracite

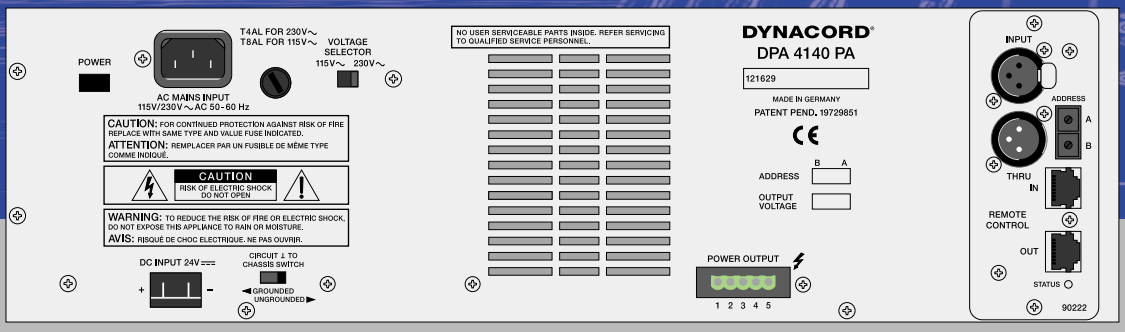
Extension-kits for the DPA 4410 PA/ DPA 4411 PA

NRS 90206	Pilot Tone Monitoring (for four amplifiers)
NRS 90207	Ground-Fault Monitoring (for four amplifiers)
NRS 90208	Input Transformer (for a single input)
NRS 90227	Output Transformer (floating, balanced monitor outputs) for DPA 4411PA

DPA 4000 PA • Power Amplifier



DPA 4140 PA 1 x 400W Amplifier



Two single-channel power amplifiers – the **DPA 4120 PA** with an output of 200 watts and the **DPA 4140 PA** offering 400 watts output power capacity, according to the IEC 268-3 standard – complete the **PROANNOUNCE**™ Series.
Offering identical performance features to the four-channel model, these power amplifiers can be included into any Pro-Sound sound reinforcement system. It is possible to order the **DPA 4120 PA** / **DPA 4140 PA** power amplifiers either with the standard input module or with a micro-processor-controlled remote control module, which enables the full support of their remote control and remote monitoring features.

Control and monitoring are accomplished through the RS-485 remote interface of the **DPM 4000 PA PROANNOUNCE**™ Manager.

The **PROANNOUNCE**™ 4-channel power amplifier **DPA 4411 PA** is similar in design to the **DPA 4410 PA**. Additionally, remote control and power amplifier monitoring are factory-included.
Control and monitor functions are implemented by the **DPM 4000 PA PROANNOUNCE**™ Manager.

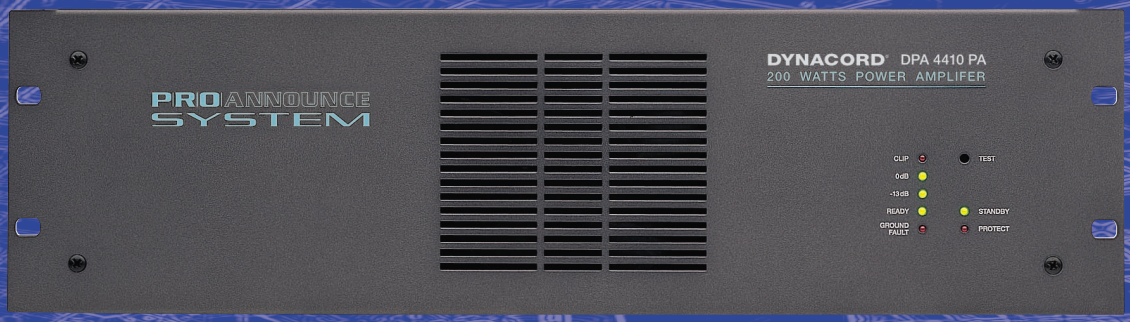
The single channel models – **DPA 4120** and **DPA 4140** – as well as the 4-channel power amplifier - **DPA 4411** – support the following remote-functions:

Control:

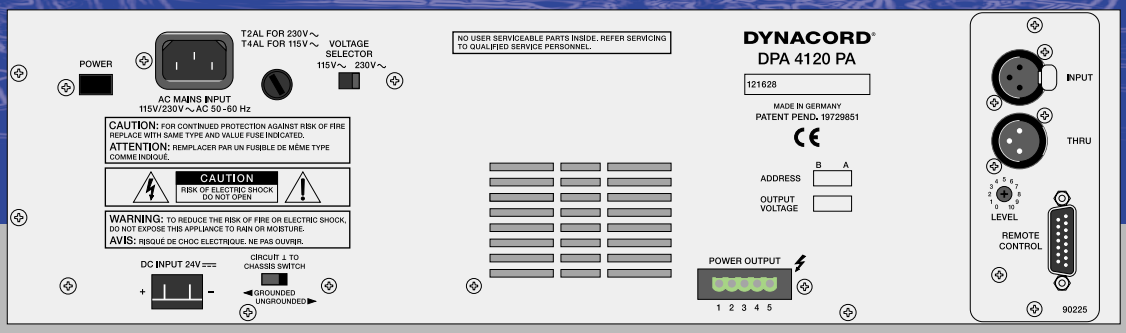
- **Input level by the use of a programmable level control**
- **Mute function**
- **Mains ON/OFF with programmable, delayed switching**
- **Battery supply ON/OFF**
- **Monitor signal routing (input or output) to the monitor bus system**
- **Pilot tone signal ON/OFF**

Monitoring:

- **Thermal overload of the power supply unit**
- **Thermal overload of the power amplifier stage**
- **Input level**
- **Ground-fault**
- **Pilot tone signal**
- **Output level**
- **Speaker lines (short-circuit, interrupt, impedance deviation)**



DPA 4120 PA 1 x 200W Amplifier



Specifications	DPA 4120 PA	DPA 4140 PA
Power Supply:		
Mains	115 V / 230 V AC, ±10 %	115 V / 230 V AC, ±10 %
Mains Frequency	50 - 60 Hz	50 - 60 Hz
Battery	24 V DC, -10/+30 %	24 V DC, -10/+30 %
Safety Class	I	I
Mains Power Consumption	520 VA at nominal output 200 VA driven at -10 dB 30 VA no signal	1020 VA at nominal output 380 VA driven at -10 dB 44 VA no signal
24 V DC Power Consumption	9.1 A at nominal output 3.7 A driven at -10 dB 0.4 A no signal / 2.5 mA in stand-by	17.3 A at nominal output 7.1 A driven at -10 dB 0.6 A no signal / 2.5 mA in stand-by
Input Characteristics:	electronically balanced	electronically balanced
Nominal Input Level	775 mV / 0 dBu	775 mV / 0 dBu
Nom. Input Impedance	≥ 10 kΩ	≥ 10 kΩ
Power Output Characteristics:	balanced, floating	balanced, floating
Nom. Output Power (Mains)	200 W (acc. to IEC 268-3)	400 W (acc. to IEC 268-3)
Nom. Load Impedance	50 Ω / 100V 25 Ω / 70 V 12.5 Ω / 50 V 4 Ω / 28 V	25 Ω / 100V 12.5 Ω / 70 V 6.25 Ω / 50 V 4 Ω / 40 V
Frequency Response	60 Hz .. 20 kHz	60 Hz .. 20 kHz
Distortion @ 1kHz and Nom. Outp. Power	≤ 1 %	≤ 1 %
Interference Voltage (A)	≤ 1.2 mV / -56 dBu	≤ 1.2 mV / -56 dBu
Monitor Output Characteristics:	unbalanced	electronically balanced
Nominal Output Voltage	2 V / + 8.2 dBu	2 V / + 8.2 dBu
Nom. Load Impedance	600 Ω	600 Ω
Temperature Range	41°F .. 104°F	41°F .. 104°F
Dimensions (W x H x D)	19“ x 5.25“ x 13.6“	19“ x 5.25“ x 13.6“
Installation Depth without Connectors	13.4“	13.4“
Installation Depth including Connectors	16.1“	16.1“
Weight	29 lb	36.8 lb
Finish	anthracite	anthracite

Extension-kits for the DPA 4120 PA/ DPA 4140 PA
NRS 90208 Input transformer (floating, balanced input)
NRS 90222 Remote module
NRS 90224 Pilot tone & ground-fault monitoring
NRS 90225 Standard input module (note: not included with the DPA 4120 PA/DPA 4140 PA)
NRS 90227 Output transformer (floating, balanced monitor output)

DPA 4000 PA• Power Amplifier

DPA 4260 PA 2 x 600W Amplifier

Specifically designed for permanent installations, the 2-channel power amplifier **DPA 4260 PA** offers superb performance, reliable operation, and uncompromising sound quality.

The power amplifier incorporates 2 high-performance output transformers, and in addition to 100 V, 70 V, and 25 V floating outputs, this amplifier can also drive loudspeaker systems with a low-impedance down to 4 ohms. Simultaneous operation of low-impedance speaker systems and floating loudspeaker lines on a single output channel of the power amplifiers is also possible.

The integrated 45 Hz LO-cut filter with 18 dB/oct. slope protects the connected loudspeaker lines from unwanted ultra-low frequencies.

Comparator circuitry constantly monitors the input and output signals of the power amplifier and activates its internal limiters whenever non-linear operation is encountered. This provides a high degree of loudspeaker system protection from saturation of the power supply transformers, clipping induced overload and over-voltage at the outputs.

The **4260 PA** power amplifier's transmission and sound qualities are absolutely superb.

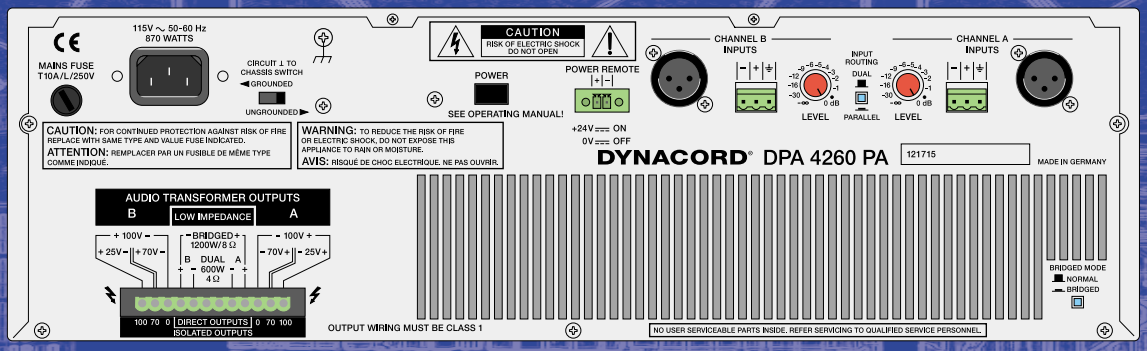
The amplifier employs low interference toroidal transformers which ensure maximum performance, with minimum interference for demanding applications.

Front panel LED indicators provide clear channel status indication, showing whether a channel is ready for operation, signal is present at the output, and if any of the limiter circuits and/or one of the protection circuits has been activated.

DPA 4260 PA power amplifiers feature electronically balanced connections and both XLR and terminal strips. Input transformers can be optionally retrofitted. The dual input connectors readily provide a means for looping the input signal to additional or reserve amplifiers as required, without the need for external splitters. Input routing switches allow configuring the power amplifiers for stereo, parallel-mono, or bridged-mode operation.

Input level controls calibrated in decibels and ground lift switches are provided on rear panel for easy configuration by the installer, while providing a degree of "tamper resistance" from operators and bystanders. Loudspeaker line connection is provided through a binding post strip, where all voltages – 25 V, 70 V, 100 V – and the low-impedance output are present on individual screw-clamp connectors. Remotely starting the power amplifiers is possible via rear panel service mains switches or power remote inputs.

Thermal stability of the unit is ensured through the use of extremely quiet, variable-speed fans, controlled by temperature sensors within the amplifiers. Front to back cooling path further ensures that the amplifiers will be kept running cool and reliably, regardless of adjacent equipment.



DPA 4260 PA 2 x 600W Amplifier

Specifications	DPA 4260 PA
Power Supply:	
Mains	115 V AC / 50 - 60 Hz
Safety Class	I
Mains Power Consumption	2268 VA at nominal output 842 VA driven at -10 dB 131 VA no signal
Input Characteristics:	electronically balanced
Nominal Input Level	775 mV / 0 dBu
Input Impedance	20 kΩ
Power Output Characteristics:	balanced, floating
Maximum Output Power Capacity	600 W into 4 Ω
Nominal Output Power Capacity	500 W (acc. to IEC 268-3)
Nom. Outp. in Bridged-Operation	1000 W (acc. to IEC 268-3)
Nom. Load Impedance	20 Ω / 100V 9.8 Ω / 70 V 1.25 Ω / 25 V 4 Ω / 44.7 V
Frequency Response	45 Hz .. 22 kHz (-3 dB)
Distortion @ 1kHz and Nom. Outp. Power	≤ 0.1 %
S/N range	> 100 dB
Protection Circuitry	audio limiter, thermal overload, DC, HF, Back-EMF, peak current limiter, initial current inrush limiter, power-on delay, saturation limitation circuit for the output transformers
Temperature Range	41°F .. 104°F
Dimensions (W x H x D)	19“ x 5.25“ x 15.1“
Installation Depth without Connectors	14.8“
Installation Depth including Connectors	
Weight	49.5 lb
Finish	anthracite

Extension-kits for theDPA 4260 PA
NRS 90208 Input transformer (for a single input)

DPC 4000 • Paging Stations

DPC 4550

The paging stations of the **PROANNOUNCE™ System** fulfill all technical requirements of modern communication equipment. The units are extremely rugged, constructed of metal, and are designed for years of trouble free operation. The “Euro-styling” provides an attractive appearance, decidedly a notch up from typical paging equipment. The paging stations are designed for desk top or can be rack mounted using available mounting frames.

All **PROANNOUNCE™** Series paging stations employ integrated micro processors to control their internal functions and data communication with the central unit. The integrated watchdog-circuit guarantees self-monitoring according to IEC 60849 standards while a pilot-tone oscillator guards the analog section. These allow the complete monitoring of unit health, for truly fail-safe operation.

The microphone preamplifier is of low noise design and provides an integral compressor/limiter for maximum intelligibility. The slim design black gooseneck includes a high quality electret element with integral pop filter. The paging station offers an additional, external input for the connection of PTT-microphones (Push-to-Talk microphones) with priority function. The input can also be set to 0 dB, permitting external line level signals to be fed to the system at the paging console.

The paging console can be configured to require the entry of a pass code to enable the paging function, providing a high degree of security when the unit is accessible by the general public. The paging stations have built-in piezo electric alarms which can be programmed to give the operator indications of malfunctions or alarm conditions.

Optional internal speakers are available to permit 2 way communications between paging stations, as programmed within the central unit. The speaker can also be programmed to provide audio monitoring functions.

The units are ergonomically designed, providing tactile feedback buttons with high visibility LED indicators. Each button is individually programmable to provide access to any zone or any ancillary function within the system.

It is possible to program the following parameters: zones, groups, priorities, message and background music volume levels, program-assignment, and special functions. All paging stations employ LC-displays with plain language message indication including: status messages, multilingual directives, external fault messages, and custom-configured messages. In addition, a password-protected service- and maintenance program can be activated to allow system operation/performance monitoring.

Keyswitches, and alarm buttons with protective covers are also available for alarm usage, security lockout and other functions as required.

Interconnection of power, audio, and control is provided through a RJ45 (CAT5 style) connector between the paging station and the central unit. Function keys for talking, gong signal, text, all (collective call), erase, ON, stop, and program as well as busy and system power-on LED-indicators complete the paging stations' user interface.

One of the key ergonomic features is the included provision for labeling of keys. When the system is configured, and functions assigned to individual keys, a template is automatically created for Microsoft® Word with all labeling and format information. A label can then be printed which is proer size and text, and can be easily inserted through the removable side panel of the paging station, providing a legible label, protected by heavy duty clear plastic beneath each button.

DPC 4350

Specifications	DPC 4550	DPC 4350
Operating Voltage	24 V DC -10 / +30 %	24 V DC -10 / +30 %
Power Consumption	90 mA	90 mA
Audio - Input, external		
PTT - Microphone (bridges A & B closed)	-52 dBu	-
Line (default)	0 dBu	-
Audio-Output (electronically balanced)	+6 dBu	-
Alarm Key with Cover, sealable	yes	-
DPC 4350 Connection, possible	yes	-
Connection	RJ-45	RJ-45
Connection Cord, supplied	9.8'	40"
LC-Display	2 x 16 characters	-
Temperature Range	41°F .. 104°F	41°F .. 104°F
Dimensions of the Encolsure (W x D x H)	16" x 6.3" x 2.6"	13.2" x 6.3" x 2.6"
Gooseneck	3" dia x 7.9"	-
Weight	5.5 lb	4.2 lb
Finish	gray-white RAL 9002 micro structure	gray-white RAL 9002 micro structure

Extensions:

NRS 90230	Push-button / switch ø 18 mm	NRS 90209	Loudspeaker
NRS 90231	Key-lock switch ø 18 mm	NRS 90232	Transformer balancing

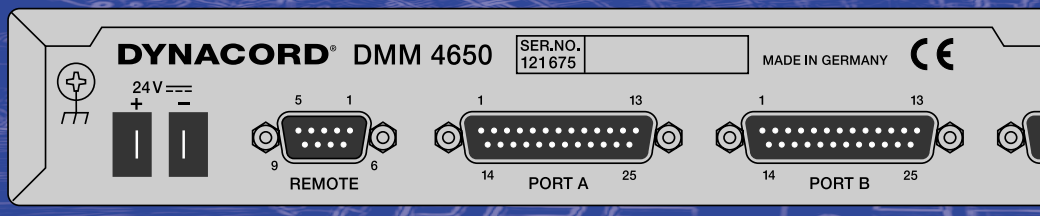
Blinds for rack / console installation (on demand)

DPC 4000 • Paging Stations

Specifications	DPC 4530	DPC 4520
Operating Voltage	24 V DC -10 / +30 %	24 V DC -10 / +30 %
Power Consumption	90 mA	85 mA
Audio - Input External		
PTT - Microphone (bridges A & B closed)	-52 dBu	-52 dBu
Line (default)	0 dBu	0 dBu
Audio-Output (electronically balanced)	+6 dBu	+6 dBu
Alarm Key with Cover; sealable	yes	yes
DPC 4350 Extension Connection	yes	yes
Connection	RJ-45	RJ-45
Connection Cord supplied	9.8’	40“
LC-Display	2 x 16 characters	2 x 16 characters
Temperature Range	41°F .. 104°F	41°F .. 104°F
Enclosure Dimensions (W x D x H)	12.6“ x 6.3“ x 2.6“	10.6“ x 6.3“ x 2.6“
Gooseneck	3“ dia x 7.9“	3“ dia x 7.9“
Weight	4 lb	3.75 lb
Finish	gray-white RAL 9002 micro structure	gray-white RAL 9002 micro structure

Specifications	DPC 4510	DPC 4106
Operating Voltage	24 V DC -10 / +30 %	24 V DC -10 / +30 %
Power Consumption	80 mA	80 mA
Audio - Input External		
PTT - Microphone (bridges A & B closed)	-52 dBu	-52 dBu
Line (default)	0 dBu	0 dBu
Audio-Output (electronically balanced)	+6 dBu	+6 dBu
Alarm Key with Cover; sealable	yes	optional
DPC 4350 Extension Connection	yes	yes
Connection	RJ-45	RJ-45
Connection Cord supplied	9.8’	9.8’
LC-Display	2 x 16 characters	2 x 16 characters
Temperature Range	41°F .. 104°F	41°F .. 104°F
Enclosure Dimensions (W x D x H)	8.9“ x 6.3“ x 2.6“	6.7“ x 6.3“ x 2.6“
Gooseneck	3“ dia x 7.9“	3“ dia x 7.9“
Weight	3.3 lb	2.2 lb
Finish	gray-white RAL 9002	gray-white RAL 9002
	micro structure	micro structure

DMM 4650 • Digital Message Manager



The **DMM 4650** digital signal processor with message manager rounds out the **PROANNOUNCE™ System**.
Its 1 R.U. 19-inch enclosure houses the message recorder, alarm signal and gong signal generator, and an extremely versatile sequencer.

The message manager employs a flash-memory that is absolutely maintenance-free and provides the capability of direct digital recording and reproduction of at least 100 individual sound and speech signals.

Depending on the installed storage capacity, the maximum recording time is 16 minutes. The user can choose between different sample rates to optimize recording quality versus recording time, based upon customer requirements.

The **PROANNOUNCE™** Digital Message Manager can accept audio input from external microphones, external line level signals or the system paging consoles. Provisions are made for remote control of recording and playback functions.

The digital alarm signal generator provides all commonly used alert signals, including alarm signals for working environments. Available alarm signals provide everything from “whoop whop” sirens to “Big Ben” type chimes, to gongs, in short, an annunciator tone for every purpose.

The digital gong signal generator provides several different signals, including: pre-gong, 2, 3, and 4-sound movie theater gong.

One of the most important features is the automated, system-controlled launch of sequences, which can involve alerts, text messages, gong signals, and "live"-messages (e.g., coming from a paging console at the local security station) in a free configuration.

Several sequences are pre-programmed and stored in factory-presets to make the handling of such a complex system as easy as possible. These presets include at least 15 acoustical alarm signals, 6 different gong signals and the necessary control procedures.

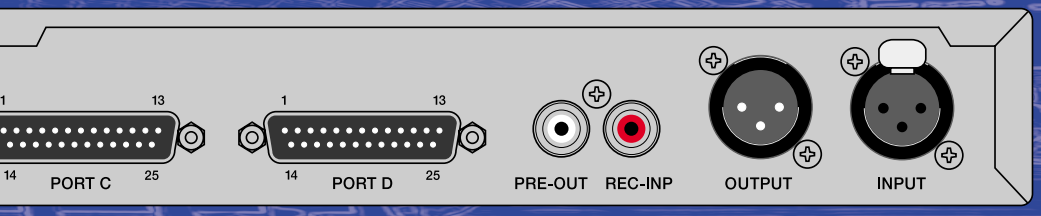
Safety Features :

- **Self-monitoring in compliance with the IEC 60849 standards; with fault message output**
- **Password protection over several levels**
- **RS 232 interface for data backup and servicing purposes**
- **Integrated service and maintenance software program**

The micro processor-controlled **PROANNOUNCE™ Message Manager DMM 4650** employs a separate digital signal processor. The easily readable LC-display provides the user with all important status information and guides the configuration through the program menus. The LCD also provides status information, including available recording time remaining.
The priority of all procedures is freely definable. In addition to the factory-presets, 40 user-configurable presets are available for programming and storing custom configurations.

All parameters can be edited. The **DMM 4650** provides electronically balanced inputs and outputs that optionally can be retrofitted with transformers.

DMM 4650



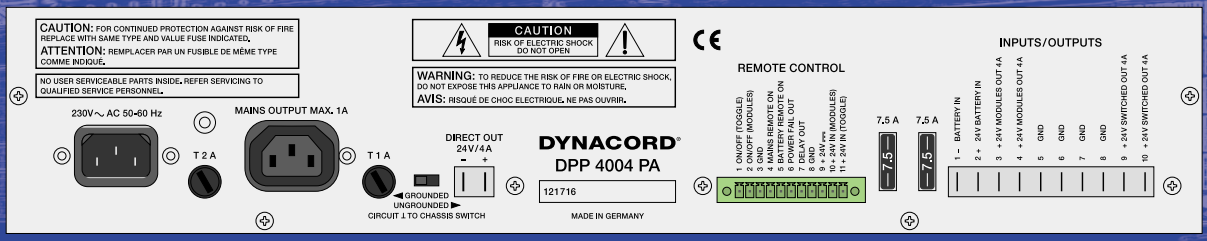
Specifications	DMM 4650 Digital Message Manager
Operating Voltage	24 V DC, -10/+30 %
Power Consumption	18 W (without extensions)
Input Voltage	
Input	775 mV / 0 dBu
Line, Rec Input	775 mV / 0 dBu
Mic Input	1.4 mV / -54 dBu
Max. Input Voltage	
Input	3.8 V / +14 dBu
Line, Rec Input	30 V / +32 dBu
Mic Input	50 mV / -24 dBu
Input Impedance	
Input	20 kΩ
Line, Rec Input	20 kΩ
Mic Input	1.4 kΩ
Output Voltage	
Output	0.775 V / 0 dBu
Pre-Output, Phones	3.2 V / +12 dBu
Max. Output Voltage	
Output	3.8 V / +14 dBu
Pre-Output, Phones	9 V / +21 dBu
Output Impedance	
Output	136 Ω
Pre-Output, Phones	220 Ω
Frequency Response	
Input > Output	20 Hz .. 20 kHz, -3 / 0 dB
Mic-Input	20 Hz .. 16 kHz, -18 / -3 dB
Others	20 Hz .. 16 kHz, +0 / -3 dB
S/N Ratio	
Input > Output	>108 dB (A)
Message	>90 dB (A)
Distortion	
Input > Output	< 0.03 % (@ 1kHz)
Message	< 0.05 % (@ 1kHz)
Data Format	
AD / DA Conversion	16 Bit linear
DSP internal	24 Bit
Sampling Rate	35 kHz
Control Inputs	≤ ±5 V = Low ≥ ±10 V = High
Control Outputs	floating relay contacts 1A with 24 V DC
Dimensions (W x H x D)	19“ x 1.75“ x 8.9“, 1 RU@19“
Weight	8.8 lb

Extension-kits for the DMM 4650

NRS 90204	4 control inputs and outputs for the ports C / D
NRS 90205	Message memory extension
NRS 90210	Output transformer
NRS 90211	Input transformer

DPP 4000 PA • 24V Power Supply Units

DPP 4004 PA



The power supply rack-units **DPP 4004 PA** and **DPP 4012 PA** have been designed to provide the emergency supply voltage of 24 V DC for a **PROANNOUNCE™ System**. The power supply units provide all functions that modern PA-systems require, including: automatic and gapless switching between mains and battery supply as well as remote ON/OFF-functions.

Using the front panel mains switch allows turning the system power off completely. To prevent inadvertent erroneous switching, a cover lid can be installed with the switch turned to the ON-position.

For simpler systems, where alarms, redundancy and battery backup are NOT required, both units provide a DIRECT OUT, with which the **DPP 4004 PA** can handle a current load of max. 4 A and with the **DPP 4012 PA** of max. 12 A.

The provided SWITCHED OUT also handles current loads of 4 A and 12 A respectively, and is meant for connecting the **DPM 4000** and other gear that needs an uninterrupted power supply. During normal operation, this output is connected to the internal switch-mode power supply. In case of temporarily power-loss, power-failure, or malfunctioning of the switch-mode power supply, this output is switched to battery supply almost instantaneously, providing uninterrupted power supply for all connected devices. When the mains supply is restored, the unit automatically returns with a delay of 600 ms to mains operation.

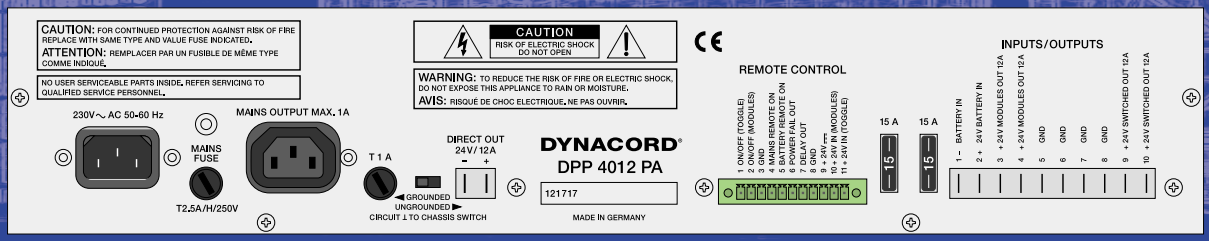
An additional switched output can be utilized for connecting devices which can be switched off during times of power outage or when the system is in stand-by mode; (e.g. relay-fields, text-message devices, power amps, etc.) Switching off unneeded devices during power failure is preferable to conserve power for critical functions.

All outputs are internally short-circuit-protected and can be operated without loads connected.

Performance Features:

- **Primary sync switch-mode power supply that supports any 24 VDC module in PA-systems**
- **Covered mains switch**
- **Mains and battery status indicator LEDs**
- **Initial current inrush limiter**
- **Short-circuit protected outputs**
- **Forced ventilation**
- **Mains voltage 104-127 / 207-253 VAC; internally switchable**
- **Emergency power supply via battery input connector**
- **Mains output, switched, via rubber plug**
- **24 V direct outputs, uninterrupted switching, remote controlled**
- **Delayed control output for the release of alarm-gong and summing modules**
- **Control outputs for remotely switching between mains and power amplifier battery supply**
- **Output for power failure recognition**

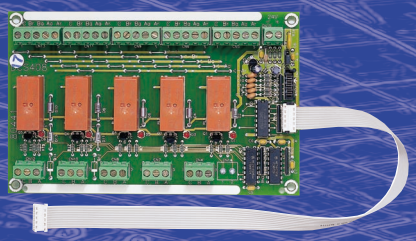
DPP 4012 PA



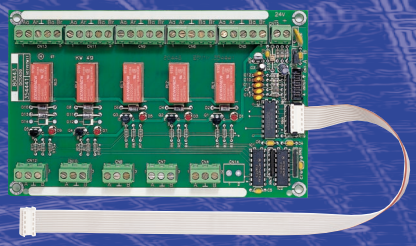
Specifications	DPP 4004 PA	DPP 4012 PA
Mains Power Supply		
Operating Voltage	115 V AC ± 10%, 50 - 60 Hz	115 V AC ± 10%, 50 - 60 Hz
Safety Class	I	I
Mains Power Consumption	≤ 20 VA (idling)	≤ 25 VA (idling)
	≤ 120 VA with nom. load	≤ 360 VA with nom. load
Battery Power Consumption		
Battery Voltage	24 V -10%/+30%	24 V -10%/+30%
Power Consumption	≤ 0.17 VA (idling)	≤ 0.17 VA (idling)
	≤ 4.1 VA with nom. load	≤ 12.1 VA with nom. load
Output Characteristics		
Nominal Output Voltage	24 V	24 V
Nom. Output Current with Forced Ventilation	4 A	12 A
Residual Ripple Frequency	< 100 mV pp	< 100 mV pp
Mains Deviation	± 1 %	± 1 %
Current Carrying Cap. of the Control Outputs	1 A (Mains Remote On)	1 A (Mains Remote On)
	1 A (Battery Remote On)	1 A (Battery Remote On)
	0.1 A (Delay Out)	0.1 A (Delay Out)
Temperature Range	41°F .. 104°F	41°F .. 104°F
Dimensions (W x H x D)	19“ x 3.5“ x 13“	19“ x 3.5“ x 13“ 3 R.U.@19“
Installation Depth including Connectors	15.75“	15.75“
Weight	15.4 lb	15.4 lb
Finish	anthracite	anthracite

DCS 400 • Control System

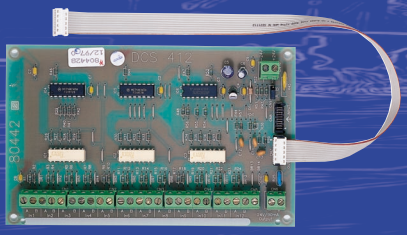
DCS 401 Control Module



DCS 408 Relay Module 100V



DCS 409 Control Relay Module



DCS 412 Logic Input Module

DCS 416 Analog Input / Output Module

DCS 401 Control Module

Operating Voltage	24 V DC, -10/+30 %
Operating Current	25 mA .. 65 mA
Operating Temperature Range	41°F .. 104°F
Dimensions (W x H x D)	6.3“ x 1“ x 3.94“
Weight	5 oz.

DCS 408 Relay Module 100V

Operating Voltage	24 V DC, -10/+30 %
Operating Current, Relay OFF	5.2 mA .. 7.8 mA
Operating Current, Relay ON	87 mA .. 130 mA
Relay Characteristics:	
Contact Components	2 changers
Contact Material	AgNi 90/10
Contact Load (ohmic load)	2000 VA
Contact Current	8 A
Contact Voltage	100 V AC
Operating Temperature Range	41°F .. 104°F
Dimensions (W x H x D)	6.3“ x 0.8“ x 3.94“
Weight	8 oz.

DCS 409 Control Relay Module

Operating Voltage	24 V DC, -10/+30 %
Operating Current, Relay OFF	5.2 mA .. 7.8 mA
Operating Current, Relay ON	55 mA .. 80 mA
Relay Characteristics:	
Contact Components	2 changers
Contact Material	AgPd + 10 µ Au
Contact Load (ohmic load)	1 A / 24 V DC
Maximum Contact Current	2 A
Operating Temperature Range	41°F .. 104°F
Dimensions (W x H x D)	6.3“ x 0.7“ x 3.94“
Weight	6 oz.

DCS 412 Logic Input Module

Operating Voltage	24 V DC, -10/+30 %
Operating Current,	
All Inputs Open	2.6 mA .. 8.2 mA
All Inputs via 24 V Connector	60 mA .. 83 mA
Input Level:	
Voltage for Input OFF (Low)	< ± 5V
Voltage for Input ON (High)	> ± 10 V
Maximum Input Voltage	max = ± 31 V
Input Current at U_{IN} 24 V	4.8 mA
Power Source 24 V:	
Maximum Output Current	I_{OUT} max = 90 mA
Operating Temperature Range	41°F .. 104°F
Dimensions (W x H x D)	6.3“ x 0.7“ x 3.94“
Weight	4 oz.

DCS 416 Analog Input/Output Module

Operating Voltage	24 V DC, -10/+30 %
Operating Current,	
All Inputs Open	50 mA..60 mA
All Inputs Short-Circuited	68 mA..75 mA
Inputs:	
Voltage Range (Min .. Max)	0 V .. 10 V
Impedance Range ext. (Min .. Max)	0 Ω .. 10 kΩ
Max. Input Voltage	50 V
Outputs:	
Voltage Range (Min .. Max)	0 V .. 10V
Output Impedance	47 Ω
Min. Load Impedance	2 kΩ
Reference Power Source:	
Output Voltage	10 V
Output Current	30 mA
Input/Output Resolution	8 Bit
Operating Temperature Range	41°F .. 104°F
Dimensions (W x H x D)	6.3“ x 1.0“ x 3.94“
Weight	5 oz.

DCS 400 · PROANNOUNCE™ Control System

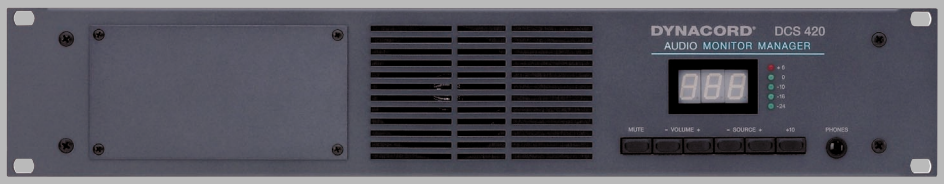
For the professional sound contractor / installer to be able to provide a complete multi-zone paging / announce system to their customer, a number of additional interfaces may be required.

For these purposes the **PROANNOUNCE™** Control System **DCS 400** provides the following modules:

- **70V relay for line switching**
- **Control relay for collective call and forced reception**
- **Line level audio switching**
- **Logic output extension via additional control relays**
- **Logic input extension, isolated**
- **Control and query of external analog levels for controlling media, lights, etc.**
- **Monitor module for acoustically and optically monitoring levels**

Connecting individual boards to the DPM 4000's remote interface is established through a control module (DCS 401). They are controlled and monitored by the DPM 4000. Up to 8 **DCS 401** control modules can be connected, where the remote bus allows distances of up to 1,000 meters. With the use of hubs or level converters, distances in excess of several miles are possible. Such techniques allow the creation of campus wide installations.

DCS 420



The **DCS 420** is meant for monitoring power amplifier outputs and for pre-listening to audio signal sources in **PROANNOUNCE™** installations.
The SOURCE-key lets the user select up to 250 different monitor sources while the VOLUME-key allows setting loudspeaker or headphone volume level in 10 steps. MUTE switches the speaker or phones signal ON or OFF. The sequence of monitor signal switching can be preprogrammed in the **PROANNOUNCE™ Designer** software.

DCS 420 PROANNOUNCE™ Monitor Manager

Operating Voltage	24 V DC, -10/+30%
Operating Current	250 mA (max.)
	75 mA (stand-by)
Audio Input:	
Nominal Input Level (0 dB LED)	650 mV / -1.5 dBu
Max. Input Voltage	5.0 V / +16 dBu
Input Impedance	2 kΩ

Audio Output:	
Loudspeaker	1 W
Output Voltage Phones (max.)	2 V / +8.2 dBu
Output Impedance Phones	10 Ω
Operating Temperature Range	41°F .. 104°F
Dimensions (W x H x D)	19" x 3.5" x 4" 2 R.U.@19"
Weight	4.6 lb