



**ALFTECH**  
YOUR PARTNER IN INDUSTRIAL INNOVATION



**DAPP-EN1**

## Digital Audio Programmable Player

### DAPP-EN1

#### HARDWARE FEATURES

- 16 minutes of near CD quality mono playback, or 34 minutes "high quality" mono voice playback
- Mono, balanced line out
- 16 hardware triggers
- 62 scheduled timer triggered events (optional)
- 62 RS-485 triggered events (optional)
- Each Hardware trigger can be individually programmed to be active high or low
- Each trigger can be assigned a priority level
- Programmable via standard PC parallel port

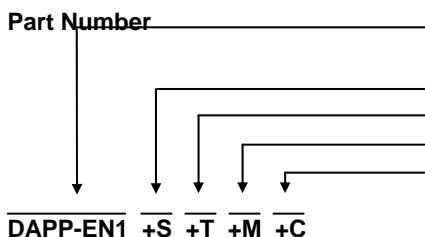
#### HARDWARE CONNECTIONS

- 24V DC supply input
- 16 hardware triggers
- Balanced audio line-out
- PC Parallel port connection

#### HARDWARE INDICATORS

- Power LED
- System operational LED
- System busy playing LED

#### HARDWARE ORDERING OPTIONS



### DAPP-CONSOLE

#### SOFTWARE DESCRIPTION

The DAPP-EN1 is supplied with DAPP-CONSOLE, a Microsoft® Windows based graphical user interface software, which allows easy setup, configuration and programming.

DAPP-CONSOLE uses any MP3 (MPEG 1 or 2, Layer 3 Audio), compatible files for playback. Your audio files can be prepared in any program that can generate a MP3 compatible file.

For each "event" a trigger is configured that has an audio file assigned to play when the "event" triggers its playback. Programmable Audio file playback triggers can be Externally Hardwired Triggers, Programmed Timed Events or RS-485 triggered events.

The optional timers can be programmed to trigger at a certain time of day, and on specific day(s) of the week. The optional RS-485 activated triggers can also be implemented to activate audio playback via a RS-485 connected device.

Once your setup and configuration is complete, the DAPP-CONSOLE will download the MP3 audio files to the DAPP-EN1. Every audio file's compression level can be set individually, to optimize compression and/or audio output quality.

Each of the 62 audio files can be tested by playback from within the DAPP-CONSOLE software application.

After downloading and testing, the DAPP-EN1 can be disconnected from the PC, and installed on site. Data retention exceeds 10 years with no battery backup.

DAPP-EN1 DATASHEET OCTOBER 2005

Specifications and Information contained in this manual are furnished for informational use only, and are subject to change at any time without notice, and should not be construed as a commitment by ALFTECH. ALFTECH assumes no responsibility or liability for any errors or inaccuracies that may appear in this manual, including the products and the software described in it.  
Copyright © 2004 Alf Electro-Technical Services CC. All rights reserved.

ALFTECH - P.O. Box 1718 - Somerset West - 7129 - Ph: +27-21-851-7126 - Fax: +27-21-852-8111 - info@alftech.com

## DAPP-CONSOLE

### Software Requirements

- **Requires an IBM PC/AT Compatible Computer**
  - Available Parallel Port
- **Recommended Platforms:** IBM-compatible PC running Windows XP, Windows 2000, NT4 SP3+, ME\* or 98SE\* at a minimum screen resolution of 800×600 (Small Fonts).

\* NOTE: DAPP-CONSOLE has been tested successfully on alternative Microsoft Windows platforms, but ALFTECH makes no recommendation of the use of such alternatives. Only LIMITED support is provided if the DAPP Products are installed or connected to such alternatives.

### DAPP-EN1 Electrical Specifications

#### Recommended Operating Conditions

(0° C to + 55 °C)

PARAMETER	CONDITION	MIN	TYP	MAX	UNITS	NOTES
Supply Voltage		22	24	26	V	5
Trigger Voltage		0		24	V	1,5

#### Electrical Characteristics

(Over the Operating Range)

PARAMETER	CONDITION	MIN	TYP	MAX	UNITS	NOTES
Supply Current	24V DC		50		mA	
Power Consumption	22V to 26V		1.2		W	
Trigger input Current	Trigger pulled to GND		2		mA	
Trigger pull up resistance			10		kΩ	
LOW level Trigger Voltage				1	V	1
Minimum Trigger pulse width		20			mS	
Real Time Clock Accuracy	0°C to +40°C		±1		Min/Yr	2
Battery Backup time	Power removed from board		10		days	
Audio Output Level	0 dBFS digital		+3		dBu	3
Audio Output Impedance	Differential		44		Ω	
Frequency Response	30 Hz to 16 kHz		± 1.5		dB	4
Signal-to-Noise Ratio	-3 dBFS digital			84	dB	4
Total Harmonic Distortion	-3 dBFS digital			0.006	%	4
Memory data retention time		10			Yr	

#### Notes

1. The trigger inputs should be left floating when not triggered, and must be pulled to GND when triggered, with a relay contact or an open collector transistor.
2. The Real Time Clock may vary to ±4 Min/Yr over 0°C to +85°C.
3. The output level is between the hot and cold terminals. Peak-to-Peak voltage of 3.096 V, RMS voltage of 1.095 V.
4. Tested with 44100 Hz sample rate, 16 bits and 192 kbps data rate.
5. Power supply and all trigger inputs have reverse voltage protection.

#### Audio Output

The output is balanced, and impedance matched. The output is driven out of phase, and is not floating like a transformer output. If an unbalanced output is required, connect the cable ground to ground, and the signal to the HOT output terminal. Leave the COLD terminal open. This however will only supply half the output level of a balanced output. The outputs can easily drive the large capacitive loads associated with long audio cables.

#### Grounding

If the DAPP and the device the audio output is connected to are both grounded, the audio cable ground can be disconnected on the one end. The screen must still be connected on the one end, as this will avoid ground loops. All equipment must always be grounded to the safety ground of the building. Follow industry practices for proper system grounding of the cables. Shielded twisted-pair cable is recommended for all applications.

#### Electrostatic Discharge

The inputs and outputs can be damaged by electrostatic discharge, thus care must be taken when handling the boards. Failure to observe proper handling and installation procedures can cause damage. ESD damage can range from performance degradation to complete product failure.

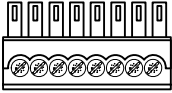
## Physical Connection

### PHOENIX Contact Connectors (Supplied with the DAPP-EN1)

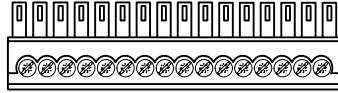
The hardwired connections to the DAPP-EN1 are via a set of PHOENIX Contact 3.81 mm pitch connectors as illustrated below.

#### Plug-in screw Connectors

(included as standard)



**PHOENIX CONTACT**  
MC 1,5/8-ST-3,81



**PHOENIX CONTACT**  
MC 1,5/16-ST-3,81

## Physical Layout and Dimensions

### DAPP-EN1

(All Dimensions in mm)

