QTU1400

High Efficiency 4 Channels Constant Voltage Amplifier

Powersoft

PRODUCT DESCRIPTION

The Powersoft QTU1400 is a professional 4 channels constant voltage power amplifier designed to meet the most stringent requirements of professional users in public address installations.

Designed by Powersoft R&D team the QTU1400 is exclusively built in Italy with internal components selected for premium quality and proven durability.

Each modular subassembly is pre-tested, and the assembled QTU1400 receives a rigorous 48 hours burn-in before through final check-out on precision test equipment for total quality control.

The QTU1400 incorporates the legendary patented Powersoft universal switching mode power supply with Power Factor Correction providing users with worldwide AC acceptance and low consumption.

Powersoft bridgeable switch mode fixed frequency class D patented outputs with isolation transformers provide high quality sound even with constant voltage, excellent damping factor and cooler circuits for stable performances over time and longer amplifier life.

Each input channel has auxiliary input, activated from 24V command input, for alarm or emergency messages.
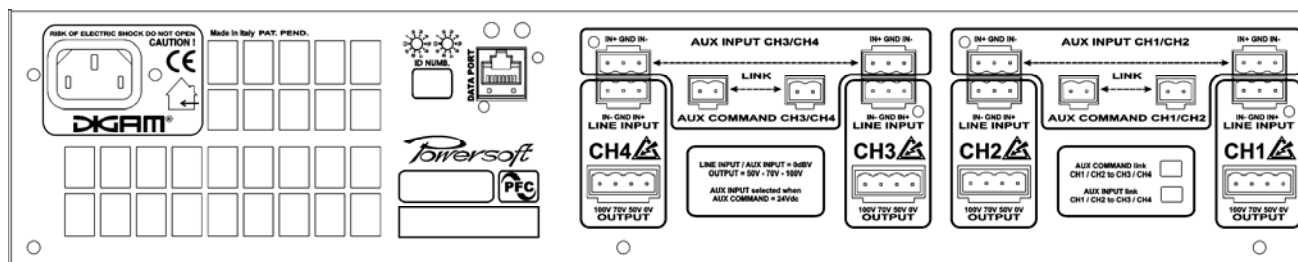
Optional sensing and communication board, on RS485 bus, provides full control and monitoring through proprietary software running on external PC, compatible with all other Powersoft Q, D and K Series amplifiers.

The Powersoft QTU1400 is CE approved.

QTU1400 FEATURES

- Powersoft legendary universal switch mode power supply with Power Factor Correction
- Fixed frequency switch mode output
- Patented output filter with ripple cancellation network
- Four isolation transformers
- Comprehensive front panel indicators
- Phoenix Type 3 pole inputs, auxiliary inputs and 4 pole outputs connectors
- 24V command input for triggering auxiliary inputs
- Inputs and outputs monitoring through internal loudspeaker and headphone output
- Fully protected circuit design with:
  - AC protection: shut down power supply when AC mains voltage is outside operating range
  - Clip limiter: prevents severely clipped waveforms from reaching loudspeakers, while still maintaining full peak power output
  - DC protection: protects against infrasonic signal at the outputs
  - VHF protections: protects the loudspeakers against non audible, strong, non musical very high frequency signals
  - Short circuit protection: protects the amplifier from short circuit or other stressful events for the output circuits
  - Thermal protection: when output rails reach 75°C (167°F) amplifier shut down outputs, they will unmute automatically when temperature will reach 65°C (149°F)
  - Long term limiter: protects the loudspeaker against steady long term rms (non audio) signals reducing maximum output
- Temperature controlled continuous variable speed fan, front to back airflow
- Recessed stepped attenuators
- Detachable AC mains cable with IEC 16A socket
- Modular construction
- Full three years warranty

POWER SPECIFICATIONS	50V @ min. 7,14 Ω	70V @ min. 14 Ω	100V @ min 28,5 Ω
Continuous power	4 x 350 W	4 x 350 W	4 x 350 W
Musical program power	4 x 500 W	4 x 500 W	4 x 500 W

QTU1400 Datasheet

GENERAL SPECIFICATIONS

Power requirements	AC 95V-265V, 50/60 Hz
Power factor cos (φ)	more than 0,95 from 200W to full power
Idle power	121 VA (0,5A @ 230V / 1A @ 115V)
Consumption	340 VA, 1,47A @ 230V, 2,95A @ 115V (1/8 max output power) 558 VA, 2,4A @ 230V, 4,8A @ 115V (1/4 max output power)
Thermal emission (1/8 power)	480 BTU/Hour, 121 kCal/Hour
Thermal emission (1/4 power)	629 BTU/Hour, 158 kCal/Hour
Thermal emission (full power)	1524 BTU/Hour, 385 kCal/Hour
Cooling	Temperature controlled continuous variable speed fan, front to rear airflow
Environmental operating temperature	0°-45° C (32°-113° F)
Construction	1 mm (0,04 in) steel chassis, 3 mm (0,12 in) steel front panel, 3 mm (0,12 in) screw hole protection
External dimensions	1 standard rack unit, 480mm deep (18,9 in)
Net Weight-Shipping Weight	29 Kg (63,9 Lbs) – 32 Kg (70,54 Lbs)

FRONT & REAR PANEL SPECIFICATIONS

Input connectors	Balanced 3 poles MSTB 2,5/3-ST-5,08 Phoenix© type connectors
Output connectors	50V, 70V, 100V and ground floating insulated 4 poles MSTB 2,5/4-ST-5,08 Phoenix© type connectors
Network connector	RJ45 connector for optional RS485 network with two recessed encoders for ID selection
Power switch	Front panel push on/push off mains power switch
LED indicators	Green for signal (-66dBV) and red for protect for each channel, two green marked as "monitor in" and "monitor out" as headphone selection for each input/output channel, green for amplifier ready and yellow for amplifier thermal protection for each channel couple (1,2 & 3,4), 5 led meter (3 green, 1 yellow, 1 red) per channel output meter
Monitor selection	Push button for selection of internal loudspeaker or headphone output amplifier
Headphone output	6,3mm (1/4 in) TPS jack for headphone monitoring output
Attenuators	12 steps output attenuator, one for each output channel, a detect headphone level control
Power connector	IEC 16A on rear panel
Power cable	IEC16A/Schuko
Link switches	Rear panel recessed channel 1/2 link to channel 3/4 auxiliary line input switch, rear panel recessed channel 1/2 link to channel 3/4 auxiliary 24V command switch

AUDIO SPECIFICATIONS

Input impedance	10 KΩ, balanced	**Crosstalk**	>70 dB @ 1 KHz
Input sensitivity @ 8Ω	1,58 V / 6,19 dBu	**Slew Rate 100V @ 28,5 Ω**	30V/us (input filter bypassed)
Maximum input level	3,5 Vrms/13,10 dBu	**Damping factor**	>600 @ 100 Hz
Gain	34 dB @ 50V, 37 dB@70V, 40dB@100V	**THD+N**	<0,5% from 0,1W to full power (typically <0,1%)
Frequency response	50Hz-20KHz (+0/-3dB) for 100V @ 28,5 Ω	**SMPTE IMD**	<0,5% from 0,1W to full power (typically <0,1%)
S/N ratio	> 105 dB/A (20-20K Hz A weighted)	**DIM100 IMD**	<0,02% from 0,1W to full power (typically <0,01%)

Powersoft reserves the right to make improvements in manufacturing or design which may affect product specifications.