



# TYCHO Series

## DIGITAL AUDIO PROCESSOR



## Video Conferencing and Audio Conferencing Applications

The TYCHO Series from Tendzone is specially designed to meet the audio DSP needs of video conferencing and audio conferencing systems. The TYCHO Series DSP's come in 4 size configurations, ranging from 4x4 to 12x12.

TYCHO Series DSPs offer acoustic echo cancellation (AEC), feedback suppression, and auto-mixing. The fourth TYCHO TC models feature an integrated analog telephone interface with a DTMF-standard dialer. The TYCHO TC1212/CA model offers both a 4-channel/400 watt amplifier and an integrated dual-channel wireless mic receiver. This model also comes standard with a choice of two wireless mic transmitters. (Customer may choose any combination of handheld or lavalier.)

All Tendzone DSP's come packed with a standard toolkit of powerful processing and integration features. AGC, compressor/limiter, expander, and matrix mixing are core features to all models. (A 5-band parametric EQ is standard on all size configurations, except 4x4). Tendzone's versatile speaker processor provides 8-band EQ, delay, crossover, and filtering. All Tendzone DSP's include room noise reduction, which provides for discreet removal of certain persistent ambient background sounds. In addition, all DSP models come with a standard Tendzone bonus feature: PTZ camera voice-tracking. A dedicated RS-485 port provides bi-directional commands to most robotic PTZ cameras, allowing for mic-triggered recall of camera shot presets. All of these functions are configured using Tendzone's highly-intuitive Tend-Ware GUI interface. Tendzone DSP's are backed by a standard 3-year parts and labor warranty.

Tendzone offers multiple control options for system integrators. Standard bidirectional control via RS-232, and GPI allows all Tendzone DSP's to work with standard third-party control systems, including AMX and Crestron. Local room control is also available via Tendzone's array RC-LINK wallplate controllers. These units provide bi-directional control and use PoE power, via standard Ethernet cabling. Tendzone DSP products are designed to be integrator-friendly, in terms of installation and field configuration.

The TYCHO Series of audio DSP's offer the video conferencing and audio conferencing integrator a powerful set of tools to create systems that are reliable, full-functioned, and extremely cost-effective.

## TYCHO Series

Available in 4x4, 8x8, 12x8, & 12x12

### SERIES FEATURES

- Acoustic Echo Cancellation (AEC)
- Feedback Suppression
- Auto-Mixer

### STANDARD FEATURES

- AGC, Expander, Compressor/Limiter
- \*5-Band Parametric EQ (Except 4x4)
- 31-Band Graphic EQ (Only in 4x4)
- Matrix-Mixer
- Speaker Processor (EQ, Delay, Crossover, Filters)
- Room Noise Reduction
- PTZ Camera Voice-Tracking
- RS-232 / GPI
- 8 Presets
- Tend-Ware Intuitive GUI Software
- AMX & Crestron Compatible
- 3-Year Warranty

### OPTIONS

- RC-LINK Panels
- Analog Telephone Interface
- \*\*4-Channel Amplifier (100W/Channel)
- \*\*Integrated Wireless Mics (2)
- \*In All Sizes Except 4x4
- \*\*Not Available In The U.S.

# TYCHO SPECIFICATIONS

TYCHO MODELS							
T1212/CA	T440/TC	T880/TC	T1208/TC	T1212/TC	T880/C	T1212/C	

GENERAL	
GAIN	UNBALANCED OUTPUT:-6dB;BALANCED OUTPUT:0dB
FREQ RESPONSE	20-20,000Hz(+/-0.5dB)
THD+NOISE	<0.005% @ 1kHz+4dBu
S/N RATIO	114dB,20-20,000Hz
CROSSTALK	112dB

AUDIO INPUTS							
INPUTS	12	4	8	12	12	8	12
CONNECTOR	CAPTIVE SCREW TERMINAL (3.5MM/3-POLE)						
IMPEDANCE	20K OHM (BALANCED) 10K OHM (UNBALANCED)						
NOMINAL LEVEL	0.775V						
MAX INPUT GAIN	54dB						
CMRR @60Hz	105dBu @ +20dBu (60Hz)						
PHANTOM POWER	YES (+48V DC)						

AUDIO OUTPUTS							
OUTPUTS	12	4	8	12	12	8	12
CONNECTORS	CAPTIVE SCREW TERMINAL (3.5MM/3-POLE)						
IMPEDANCE	100 OHMS						
MAX OUTPUT	20dBu						

AUDIO PROCESSING	
D/A CONVERSION	SAMPLING: 24BIT/48KHz
A-D DYN RANGE	≥ 116dB
D-A DYN RANGE	118dB
QUANTIZATION	48KHz/24BIT
I/O DYN RANGE	112dB
AEC TAIL LENGTH	512ms
NOISE CANCELLATION	UP TO 30dB/SOFTWARE SELECTABLE

PTZ CAMERA VOICE TRACKING	
INCLUDED	YES
RS-232/485 & VISCA SUPPORT	YES

SERIAL CONRTOL	
RS-232 PORT	1
CONNECTOR	DB-9(F)
RS-485 PORT	1(FOR CAMERA CONTROL)
CONNECTOR	DB-9(F)
BAUD RATE AND PROTOCOL	300-57600 BAUD (9600 BAUD IS DEFAULT), 8 DATA BITS, 1 STOP BIT, NO PARITY, NO FLOW CONTROL
PIN CONFIGURATION	RS232:RX-PIN2, TX-PIN3, GND-PIN5 RS485:A-PIN3, B-PIN4, GND-PIN5

GENGERAL PURPOSE INTERFACE (GPIO)	
GPIO	16 DEVICES, VIA DC VOLTAGE. (8 IN & 8 OUT). TWO AVAILABLE INPUT VOLTAGES(3.3V-5V & 12V). ONE OUTPUT VOLTAGE (3V)
CONNECTOR	DB-25(F)

PRESETS	
NUMBER	UP TO 8 AVAILABLE PRESETS
CONFIGURATION	VIA TENDONE TEND-WARE

TENDZONE RC-LINK PANEL/M-LAN SUPPORT	
INCLUDED	YES
RC-LINK PORTS	1
M-LAN PORTS	1

TYCHO MODELS							
T1212/CA	T440/TC	T880/TC	T1208/TC	T1212/TC	T880/C	T1212/C	

SOFTWARE SUPPORT/ COMPATIBILITY	
TEND-WARE	YES
WINDOWS 7/8	YES
THIRD-PARTY CONTROL	YES,VIA STANDARD RS-232 & ASCII COMMAND STRINGS (COMPATIBLE WITH AMX,CRESTRON, EXTRON, ETC)

ANALOG TELEPHONE INTERFACE							
INTEGRATED DTMF DIALER	-	YES	YES	YES	YES	-	-
INPUT/OUTPUT	-	1IN/1OUT (RJ45)	1IN/1OUT (RJ45)	1IN/1OUT (RJ45)	1IN/1OUT (RJ45)	-	-

INTEGRATED WIRELESS MICS							
NUMBER OF MICS	2	-	-	-	-	-	-
MIC TYPE (HANDHELD/LAV)	CHOICE OF 2	-	-	-	-	-	-
FREQUENCY	600-800MHz	-	-	-	-	-	-

AMPLIFIER							
4CH @100 WATTS/CH	1	-	-	-	-	-	-

HARDWARE	
CPU	TEXAS INSTRUMENTS OMAP-L138 C6000
TYPE	DSP+ARM (DUAL CORE)
PROCESSORS	2

POWER & COOLING	
POWER	110-230V AC @ 50/60 Hz
CONSUMPTION	60 WATTS
OPERATING TEMPERATURE	0-40 °C/32-104 °F
HUMIDITY	10-90% NON-CONDENSING
COOLING TYPE	CONNECTION & FAN
MOUNTING	1RU(19x1.75" EIA STANDARD)

PHYSICAL							
DIMENSIONS	19x9.85x1.75(in.)/483x250x44(mm)						
PRODUCT WEIGHT	17.19LBS (7.8KG)	6.08LBS (2.76 KG)	6.35LBS (2.88 KG)	6.48LBS (2.94KG)	6.66LBS (3.01KG)	6.17LBS (2.8KG)	6.44LBS (2.92KG)
SHIPPING WEIGHT	25.53LBS (11.58KG)	10.05LBS (4.56KG)	10.23LBS (4.64KG)	10.36LBS (4.70KG)	10.52LBS (4.77KG)	10.05LBS (4.56KG)	10.32LBS (4.68kg)

REGULATORY COMPLIANCE-SAFETY	
CE	YES
REGULATORY COMPLIANCE-EM/EMC	
CE	YES
REGULATORY COMPLIANCE-ENVIROMENTAL	
ROHS	YES

WARRANTY	
LENGTH	3YEARS
COVERAGE	PARTS & LABOR
TERMS	SEE TERMS & CONDITIONS AT WWW.TENDZONE.COM



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