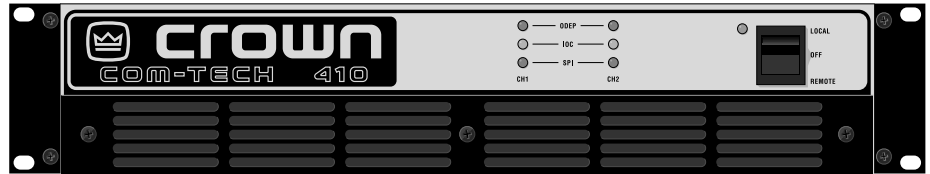


## COM-TECH® SERIES

# CT-410



**D**esigned from the ground up exclusively for the professional sound contractor, Com-Tech offers incredible features, flexibility, and the best long-term value in commercial audio today.

The Com-Tech® 10 Series amps offer the same features and performance of the original Com-Techs while delivering upgraded features to help make your job easier.

In a profession where unplanned service calls quickly wipe out profits, Com-Tech 10 Series is designed to be the most reliable amplifier you can install.

For more details about the Crown Com-Tech 10 Series, contact the Crown Technical Support Group at 800-342-6939 or 219-294-8200. Also, visit the Crown Audio website at [www.crownaudio.com](http://www.crownaudio.com).

### Specifications

The following applies to 120-VAC, 60-Hz units in Stereo mode with 8-ohm loads and an input sensitivity of 26-dB gain unless otherwise specified. Specifications for units supplied outside the U.S.A. may vary slightly at different AC voltages and frequencies.

#### Power

##### Output Power

CT-410	*1 kHz Power	**20 Hz-20 kHz Power
4-ohm Dual (per ch.)	<b>240W</b>	<b>215W</b>
8-ohm Dual (per ch.)	<b>220W</b>	<b>210W</b>
70-V Dual (per ch.)	<b>225W</b>	<b>215W</b>
8-ohm Bridge-Mono	<b>475W</b>	<b>425W</b>
70-V Parallel-Mono	<b>455W</b>	
140-V Bridge-Mono	<b>455W</b>	<b>435W</b>

\*1 kHz Power: refers to maximum average power in watts at 1 kHz with 0.1% THD.  
 \*\*20 Hz-20 kHz Power: refers to maximum average power in watts from 20 Hz to 20 kHz with 0.1% THD.

**Load Impedance:** Safe with all types of loads. With 8/4-ohm output, all Com-Techs are rated for 4 to 8 ohms in Dual mode, 8 to 16-ohms in Bridge-Mono mode, and 2 to 4 ohms in Parallel-Mono mode. With 70-volt output, rated loads vary among the different models for each dual/mono mode.

##### Voltage Gain to 1 kHz, 8-ohm rated output;

20:1 ±3% or 26 dB ±0.25 dB gain at the maximum level setting.

### Features

- Unique power supply allows channels to be independently operated in either 70-V or 8/4-ohm mode.
- Remote feature allows amplifier to be turned on and off from a remote location by adding an optional *R.S.V.P.* accessory.
- Crown's *Grounded Bridge™* design delivers large voltage swings without using easily stressed output-transistor configurations like conventional amplifiers. The results are lower distortion and superior reliability.
- Patented *ODEP®* (Output Device Emulation Protection) circuitry compensates for overheating and overload to keep the amplifier working when others would fail.

- *IOC®* (Input/Output Comparator) circuitry immediately alerts of any distortion exceeding 0.05%, providing dynamic *proof of distortion-free performance*.
- Enhanced *PIP2™* (Programmable Input Processor) connector accepts new accessory modules that tailor the amplifier to suit specific applications.
- Full protection from shorted, open and mismatched loads; general overheating; DC; high-frequency overloads, and protection from full internal fault are provided by our latest protection scheme: "*Quad-Mute.*"
- Three Year No-Fault Full Warranty completely protects your investment and guarantees its specifications.

55:1 ±12% or 35 dB ±1 dB gain at 0.775-volt (8/4-ohm) sensitivity;

##### Voltage Gain to 1 kHz, 70V rated output;

90:1 ±12% or 39 dB ±1 dB gain at 0.775 (70-V) sensitivity.

**Required AC Mains:** 50/60 Hz; 100-, 120-, 220-, 240 VAC (±10%) units are available. North American units are 60 Hz, 120 VAC only.

##### AC Line Current;

Current, voltage and frequency requirements are provided on the unit's back panel.

**At Idle:** All units draw 35 watts or less when idle (in energy-saving mode).

**AC Line Connector:** NEMA 5-15P plug is provided on 120-VAC, 60-Hz North American units. Plug illuminates when unit is powered.

##### Performance

**Frequency Response:** ±0.1 dB from 20 Hz to 20 kHz at 1 watt.

**Phase Response:** ±10 degrees from 10 Hz to 20 kHz at 1 watt.

**Signal-to-Noise Ratio, A-weighted:** Better than 105 dB below rated 1 kHz power.

**Total Harmonic Distortion (THD):** 1-kHz rated power, 0.05% or less true THD.

**Intermodulation Distortion (IMD):** (60 Hz and 7 kHz at 4:1) Less than 0.05% from rated power to 35 dB below rated power at 8 ohms.

**Damping Factor:** Greater than 1,000 from 10 Hz to 400 Hz.

**Controlled Slew Rate:** (Slew rates are limited to useful levels for ultrasonic/RF protection.)

Greater than 17 volts per microsecond.

### Controls

**Enable:** A front-panel three-position switch used to select local, off or remote.

**Level:** A 21-position detented back-panel rotary potentiometer for each channel used to control the input level.

**Sensitivity:** A three-position switch located inside the PIP2 compartment used to select input sensitivity: 0.775 volts in 8/4-ohm mode or 0.775 volts in 70-volt mode for full rated output, or a 26-dB voltage gain.

**Dual/Mono:** A three-position back-panel switch used to select Stereo, Bridge-Mono or Parallel-Mono mode.

**Reset:** A back-panel push button used to reset the circuit breaker that protects the power supplies.

### Indicators

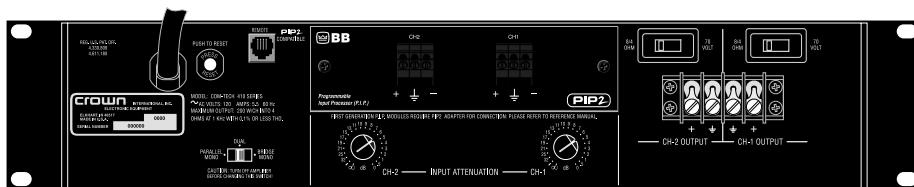
**Enable:** An amber front-panel LED that shows the on/off status of the low-voltage power supply.

**Signal:** A green front-panel LED for each channel that flashes to show amplifier output.

**IOC:** An amber front-panel LED for each channel that flashes to show distortion if a channel's output waveform differs from its input by 0.05% or more.

**ODEP:** A green front-panel LED for each channel that shows thermal-dynamic energy reserve. Normally, each ODEP indicator is lit to show available reserve energy. In the rare event that a channel has no reserve, its

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indicator will dim in proportion to ODEP limiting.

### Input/Output

**Input Connectors:** Balanced three-terminal barrier block connectors with test points are provided on the factory-installed PIP2-BB module.

**Input Impedance:** Nominally 20 k ohms, balanced. Nominally 10 k ohms, unbalanced.

**Input Sensitivity:** Settings include 0.775 volts (8/4-ohm) or 0.775 volts (70-V) for standard 1-kHz power, or a 26-dB voltage gain.

**Maximum Input Level:** 9 Vrms.

**Output Connectors:** A back-panel barrier block with two terminal connections for each output channel.

**Output Impedance:** Less than 10 milliohms in series with less than 2 microhenries.

**DC Output Offset:** Less than  $\pm 10$  millivolts.

**RSVP:** A back panel RJ-11 modular connector interfaces with an R.S.V.P. unit to provide remote control of amplifier power on/off functions.

### Output Signal;

**Stereo:** Unbalanced, two-channel.

**Bridge-Mono:** Balanced, single-channel. Channel 1 controls are active; Channel 2 controls should be turned down.

**Parallel-Mono:** Unbalanced, single-channel. Channel 1 controls are active; Channel 2 is bypassed.

### Protection

Com-Tech amplifiers are protected against shorted, open or mismatched loads; overloaded power supplies; excessive temperature; chain destruction phenomena; input overload damage and high-frequency blowups; They also protect loudspeakers from input/output DC and turn-on/turn-off transients.

If unreasonable operating conditions occur, the patented ODEP circuitry will proportionally limit the drive level to protect the output transistor stages, particularly in the case of elevated temperature. Transformer overheating will result in a temporary shutdown of both channels; the transformer will automatically resets itself when it has cooled to a safe temperature. Controlled slew rate voltage amplifiers protect against RF burnouts. And

input overload protection is provided by current-limiting resistance at the input.

**Turn On:** The four-second turn-on delay prevents dangerous turn-on transients. "Soft start" circuitry provides low inrush so power sequencers are rarely needed with multiple units.

**Accessories:** Crown PIP and PIP2 modules including IQ-PIP modules; R.S.V.P.

### Construction

Steel chassis with durable black powder-coat finish, front-panel Lexan overlay, and specially-designed flow-through ventilation from front to side panels.

**Cooling:** Internal heat exchangers with on-demand, forced-air cooling.

**Dimensions:** 19-inch (48.3-cm) standard rack mount width (EIA RS-310-B), 3.5-inch (8.9-cm) height, 16-inch (40.6-cm) depth behind mounting surface and 0.25 inches (0.6 cm) in front of mounting surface.

**Approximate Weight:** Center of gravity is 6 inches (15.2 cm) behind the front mounting surface. 31 pounds, 15 ounces (14.5 kg) net; 36 pounds, 6 ounces (16.5 kg) shipping weight.

### Crown's Three-Year, No-Fault, Full Warranty

Crown offers a Three-Year, No-Fault, Full Warranty for every new Crown amplifier—an unsurpassed industry standard. With this unprecedented No-Fault protection, your new Crown amplifier is warranted to meet or exceed original specifications for the first three years of ownership. During this time, if your amplifier fails, or does not perform to original specifications, it will be repaired or replaced at our expense. About the only things not covered by this warranty are those losses normally covered by insurance and those caused by intentional abuse. And the coverage is transferable, should you sell your amplifier.

See your authorized Crown dealer for full warranty disclosure and details. For customers outside of the USA, please contact your authorized Crown distributor for warranty information or call 219-294-8200.



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