

Product Manual

FT6

FeatherTouch 6 Panel

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Overview



In a world of generic injection-molded control panels, the FeatherTouch 6 panel stands out as an exceptional, truly custom panel. Each FeatherTouch 6 begins as a solid block of aircraft-grade aluminum, sculpted into an elegant, compact enclosure with computer-guided precision. Even the switch keys inside are computer-carved from a solid square of milk-white plastic, designed to evenly transmit the panel's constant LED illumination. Completing the custom touches are engraved keycaps, a choice of LED colors, and a wide selection custom-plated metal finishes.

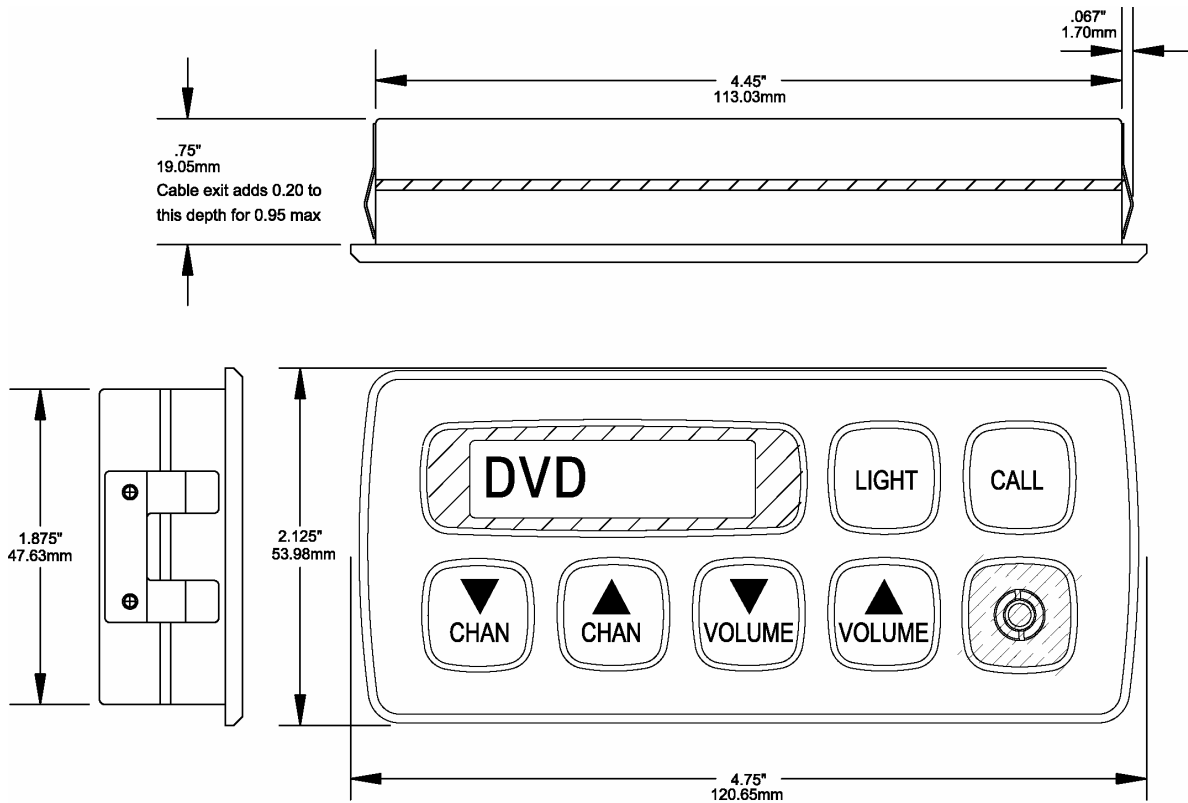
Less than an inch in depth, the 2.125" by 4.75" FeatherTouch 6 snap-fits in to a variety of small spaces, including wood furniture and cabinetry, as well metal and plastic surfaces. Each of the six switches are constantly illuminated by two-color LEDs, available in amber/green or red/green colors. An eight-character amber LED text display brightly spells out source selections, today's weather, and other system responses. A headphone jack for personal entertainment is available as an option.

Operated by RS-232 and simple ASCII commands and feedback and powered by 12 to 24 VDC power, the FeatherTouch 6 easily interfaces with custom control systems.

Featured in the luxury environments, aircraft, and yachts - as well as a number of American Airlines Admiral's Clubs, the FeatherTouch 6 adds a touch of class to any custom installation.

- Features computer machined aluminum enclosure, custom-plated in a variety of metal finishes
- Snap-mounts into wood, metal and plastic surfaces
- Operates using six always-illuminated, custom-engraved buttons, select from amber/green or red/green LEDs
- Shows source and information text on 8-character LED display
- Integrates with custom control systems 2-way RS-232 communication
- Accepts 12-24 VDC, can be remotely powered by most custom control system's data/power networks

FT6 Specifications



Physical

Size: 4.75" [120.65mm] wide x 2.125" [53.98mm] height x .75" [19.05mm] deep
 Weight: 6 oz [170 g]
 Enclosure: Machined aluminum enclosure, plated with custom finish
 Mounting: Surface mounted, friction-fit, spring clips included

Connections

Control/Power: DB-9 male connector, installed on 10" cable
 Power: 12-24 VDC, 135mA @ 11.2V, 75mA @ 24 VDC
 Pin 6 = PWR
 Pin 5 = GND
 RS-232: 1200 baud
 Pin 1 = GND
 Pin 2 = RXD
 Pin 3 = TXD
 Audio: Stereo headphone audio (optional 3.5mm jack)
 Pin 7 = COM
 Pin 8 = Right
 Pin 9 = Left

User Interface

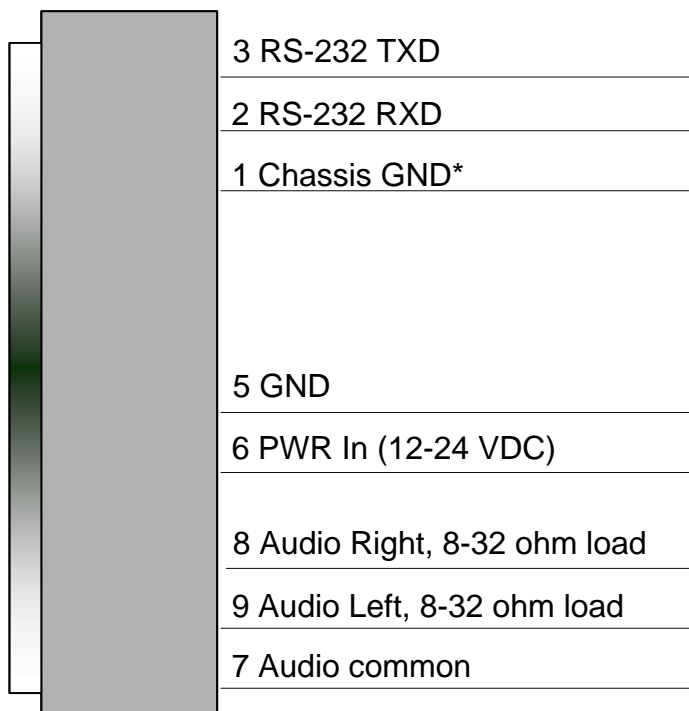
Buttons: Six, backlit by two dual-color LEDs, color indicates status
 Options include amber/green or red/green LEDs
 Custom-engraved keycaps
 LED Display: 8-character alphanumeric amber LED display

Panel Wiring

FT6 Panel Wiring

The connection cable for the FT6 includes RS-232, DC power, and stereo headphone audio (optional).

Pin 1 Chassis GND is connected to the metal bezel of the FT6 and should be tied to Earth or Airframe GND, or left unconnected.



*Wire to airframe or earth ground, if available

RS-232 Device Control Protocol

Overview

The FT6 full duplex RS-232 scheme enables a system programmer to control FT6 functions. All commands are sent as ASCII strings. No delays between characters or commands are required, as data is interrupt driven and buffered.

The 2 status groups are: Channel/Source Select and Audio Levels/Mode. Each of the groups has one ASCII status response string containing all of the status data for that group. The current status string of a group is sent from the ICC-STA whenever a valid command for that group is received from the iC-Net bus, the RS-232 ports (Terminal or Control port), or the FT6 panel. In addition, both strings are sent when the units power up.

Communications settings are fixed at 1200 baud, 8 data bits, no parity, and 1 stop bit.

General protocol specifications

Characters in command strings to the FT6 are common ASCII keyboard characters.

Command strings begin with the ASCII > (greater than symbol) as an 'Attention' character and end with carriage return - ASCII CR, Hex \$0D, or keyboard Enter - as an 'End-of-command' character.

Responses begin with the ASCII < (less than symbol) as an 'Attention' character and end with a carriage return followed by line feed an ASCII LF or Hex \$0A as 'End-of-command' characters.

A carriage return is required at the end of each command and is assumed in all examples.

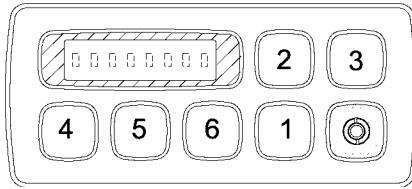
Command String Structure

[Attention] [Command] (Parameters) [Return]

Attention	Single character (>) starts the string
Command	A two-character command
Parameters	Added attributes to some commands
Return	A carriage return ends the command string, you may use ASCII CR, Hex \$0D, or keyboard 'Enter' in programming. For simplicity, the programming examples in the manual will not show the 'CR' – so remember, you'll need to add it in your control code.

RS-232 FT6 Commands

The following commands apply to the FT6.



CMD	Function	Description
		Note that FT6 buttons are always backlit—the button state sets color of LED. Typically, a green LED indicates on, while yellow is used for off. Other colors are available, and the color “polarity” can be switched via programming.
L0=	Turn Off	>LOn Turns off a specific button LED, 1-6
L1=	Turn On	>L1n Turns on a specific button LED, 1-6
L2=	On/Off Pattern	>L2dd Turn all buttons on and off by sending a decimal representation of the on buttons. Ex: >L2=12 — Turns on buttons 3 and 4, others are off 1 On = 1 4 On = 8 2 On = 2 5 On = 16 3 On = 4 6 On = 32
L3=	LED Polarity	>L3dd Set the polarity (color of LED when on and off) by sending a decimal “map” of the buttons. Off sets the normal mode, On switches on/off colors.
L4=	Group Off	>L4dd Turns off specified button LEDs. Similar to L2, but turns off specified buttons only, leaving others alone. Ex: >L424 — turns off buttons 4 and 5.
L5=	Group On	>L5dd Turns on specified button LEDs. Similar to L2, but turns on specified buttons only, leaving others alone. Ex: >L524— turns on buttons 4 and 5.
L9=	Brightness	>L9n Sets LED brightness of all buttons. 1 = 13% 5 = 53% 2 = 20% 6 = 80% 3 = 27% 7 = 100% 4 = 40%
K	Press String	>Kn(string)(\r) [use \r in place of \$0D] Set button press string (0-32 characters) for specified button, sending no characters clears display. Ex: >K1>VU — starts STA volume ramp up
K0	Press Clear	>K0 — Clears all button press strings
KZ	Start String	>KZ(string)(\r) [use \r in place of \$0D] —Send string on power-up or reset
J	Release String	>Jn(string) (\r) [use \r in place of \$0D] Set button release string (0-32 characters) for specified button, sending no characters clears display. Ex: >J1>VV — stops STA volume ramp
J0	Release Clear	>J0 — Clears all button release strings
DM	Display String	>DMttttttt Sends string to LED display, 8 characters maximum.
V6	Show Version	>V6 — Shows version on FT6 display

Safety Instructions

Read before operating equipment.

1. **Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
2. **Power Sources** - Use supplied or equivalent UL/CSA approved low voltage DC plug-in transformer.
3. **Outdoor Antenna Grounding** - If you connect an outside antenna or cable system to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
4. **Lightning** - Avoid installation or reconfiguration of wiring during lightning activity.
5. **Power Lines** - Do not locate an outside antenna system near overhead power lines or other electric light or power circuits or where it can fall into such power lines or circuits. When installing an outside antenna system, refrain from touching such power lines or circuits, as contact with them might be fatal.
6. **Overloading** - Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
7. **Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts, resulting in a fire or electric shock. Never spill liquid of any kind on the product.
8. **Servicing** - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
9. **Damage Requiring Service** - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power supply cord or plug is damaged.
 - If liquid spills or objects fall into the product.
 - If the product is exposed to rain or water.
 - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. An improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - If the video product is dropped or the cabinet is damaged.
 - When the video product exhibits a distinct change in performance, this indicates a need for service.

***Note to CATV system installer:** This reminder is provided to call CATV system installer's attention to Article 820-40 of the National Electrical Code (Section 54 of Canadian Electrical Code, Part I), that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as possible.

Limited Warranty and Disclaimer

Contemporary Research Corporation (CR) warrants this product to be free from defects in material and workmanship under normal use for a period of two years from the date of purchase from CR. Should such a defect occur CR will repair or replace, at their option, the defective product at no cost for parts or labor.

This warranty extends to product purchased directly from CR or an Authorized CR Dealer. Consumers should inquire from selling dealer as to the nature and extent of the dealer's warranty, if any.

All warranty claims must be shipped pre-paid to the factory. Call or fax to obtain a Return Material Authorization (RMA) number.

CR is not liable for any damages caused by any of its products or for the failure of any products to perform, including any lost profits, lost savings, incidental damages, or consequential damages. CR is not responsible for any claim made by a third party or made for you by a third party. This limitation of liability applies whether damages are sought, or a claim is made, under this warranty or as a tort claim (including negligence and strict product liability), a contract claim, or any other claim. This limitation of liability cannot be waived or amended by any person. This limitation of liability will be effective even if CR or an authorized representative of CR has been advised of the possibility of any such damages.

Some states do not allow a limitation of how long an implied warranty lasts. Some states do not allow the limitation or exclusion of incidental or consequential damages for consumer products. In such states, the limitation or exclusion of the Limited Warranty may not apply to you. This Limited Warranty gives you specific legal rights. You may also have other rights that may vary from state to state. You are advised to consult applicable state laws for a full determination of your rights.

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