The Enhanced Display Experts

70798-11 3.5” Hand-Held Control Display Unit (HHCDU)

Features

- *Wide temp, sunlight readable 3.5” QVGA Transflective Color AMLCD Display*
- *Dual-mode (white and NVIS) backlight*
- *Sealed 9 key Keypad (3 x 3) designed for gloved hand use*
- *Low power, embedded microcontroller*
- *RS-422 Serial Communication*
- *Rugged lightweight molded construction housing*

Introduction

The 3.5” HH-CDU is designed to provide a rugged operator interface device that is easy to integrate into any system. Based on a low-power high reliability micro-controller architecture, the HH-CDU interfaces through an industry standard RS-422 communication link. Commanded through a simple messaging structure, the HH-CDU provides for full-color display of text and simple graphical information to the operator. Low Power Sunlight-Readable operation is provided through the 3.5” QVGA LCD Display through a Transflective Technology backlight system, that reflects a portion of the ambient light back through the LCD display. The operator enters commands through the 3x3 keypad; the key press information is communicated across the RS-422 serial bus. The keypad is designed for heavy glove operation, typical in a fielded military application; each key is fully sealed and includes an “Egg Crate” style raised barrier between keys to eliminate inadvertent key presses. The Display and Keypad are backlit with an Night Vision Goggle compatible NVIS LED backlighting system. The HH-CDU includes an integral sealed harness with a military circular connector.

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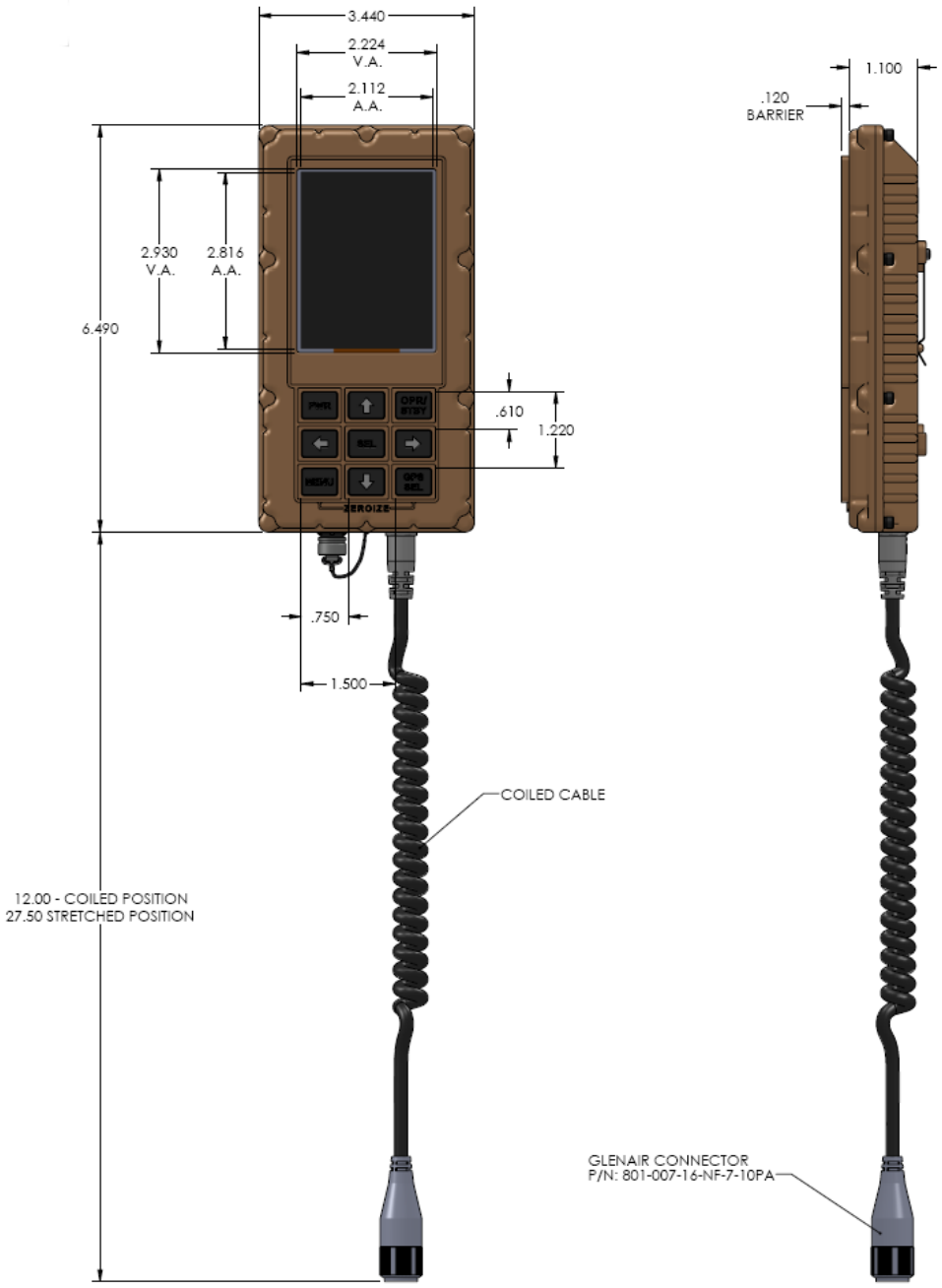
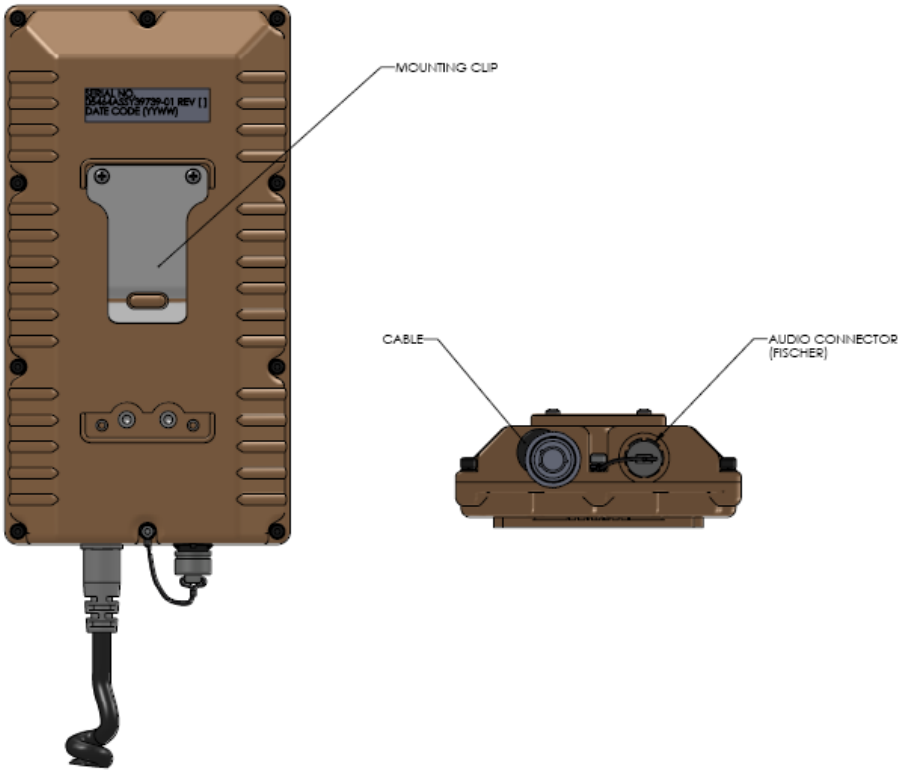
Summary Specification

External Dimensions	3.44” x 6.49” x 1.22”
Display Type	3.5” color ¼ VGA Transflective LCD
Display Technology	TFT Color Transflective LCD
Display Resolution	QVGA 320 x 240 x RGB
Screen Size	2.1”x 2.8”
Filter	Low gloss acrylic with mesh EMI screen
Response Time	30 milliseconds, typical
Format	¼ VGA color (320xRGBx240) Pixel Pitch:02235
Resident Fonts Character Size	• Resident Font1: 8 x 16 • Resident Font 2: 16 x 32
Viewing Angle	6:00 O-clock
Contrast Ratio	• Transmissive Mode: 150:1 • Reflective Mode: 20:1
Backlight Mode - NVG	NVIS-White filtered light, controllable illumination levels
Processing Element	Microcontroller based
Communication Interface	• RS-422, 115K baud • 8 bit ASCII • IEE Messaging Communication Protocol
Input Power	18 to 32 Vdc
Power Consumption	• 1.4W typical with no backlight • 2.1W with backlight • 2.8W max
Keypad/Button Configuration	3 columns x 3 rows of 0.75” x 0.75” keys
Keypad Lighting	White legend on black, NVIS Edgelight illumination
Key Technology	Snap -action dome switch
Vibrator-Audio Annunciator	Vibrator
I/O Connector (and Interface Table)	Glenair 801-007-16NF7-10PA Coiled Interface cable: 12” to 27.5”
External Dimensions	3.44” x 6.49” x 1.22”
Weight	0.8 pounds
Housing Material	GE Ultem – Desert Tan
Temperature – Operating	-20°C to +71°C (with heater)
Temperature - Storage	-40°C to +75°C
Altitude - Operating	36,000 ft
Shock	Transit Shock
Vibration	.04g **2/Hz, 20 – 2KHz, 1 hr/axis, ground mobile
Sealing/Immersion	Submersion to 1M of water for 2 hours
EMI/EMC	MIL-STD-461/462
Reliability – MTBF (hours)	Consult factory



3.5 Inch HHCDU Outline Drawing – Top and Side Views



3.5 Inch HHCDU Outline Drawing – Back and Top Views

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