



## Advanced Traffic Controller

The new COMMANDER™ ATC Traffic Signal Controller is designed to meet and exceed the latest NEMA TS1, TS2-1, TS2-2 and ATC standards. COMMANDER is the result of customer guidance, Cubic | Trafficware's extensive experience in electrical design and the latest innovations in industrial design & software engineering concepts. COMMANDER provides unparalleled performance in all signal control applications with advanced functionality for complex phasing, detector processing, coordination, preemption, communications, adaptive timing, systems operation and Connected/Autonomous Vehicle applications.

COMMANDER'S ground-breaking industrial design is compact for those tight-fit cabinets and *easily carried* with dual handles, capturing the essence of COMMANDER'S functional design elements. Its enhanced usability includes a large, sloped and recessed front panel with bright color display for day and night time use, touch screen, large keypad, and graphical user interface (GUI) as well as a classic mode user interface.

Performance includes full compliance with the Version 6 ATC standard and more... enhanced Version 6 engine board with an additional QUICC processor for communications co-processing, and a separate processor for graphics and other secondary control functions. COMMANDER is designed to operate with Cubic | Trafficware's SCOUT controller firmware.

# Product Features

## Industrial Design

- Strong, sturdy construction to withstand rough handling
- Compact - 8.2" x 15" x 6.5"
- Solid, flat top - resists drips & condensation and allows items to be placed on top
- Sloped front face for greatest viewing angle at a variety of heights
- Dual handles - designed and placed for comfort
- Recessed front panel provides additional protection
- Side-mounted 2070-A2 Comm module slot
- Recessed module face reduces shelf width needed for cable connectors
- Non-skid, screw-mounted, wide-temperature feet

## Performance

- Full compliance with Version 6 ATC...and more
- Enhanced Version 6 engine board
- 2nd powerful processor module for graphics and secondary functions

## Removable Storage

- SD Card
  - Up to 8GB
- Datakey
  - 3.3V
  - Up to 32Mb
- Both devices
  - Receptacles installed, storage devices optional
  - Industrial temperature rated
  - Configuration and log data
  - Recessed to protect from damage

## Display

- 7" color 800 x 480 TFT display
- High-brightness, sunlight-readable
- Resistive touch panel, unaffected by moisture
- Both graphical user interface and Classic Mode UI
- Display and touch screen sealed to front panel

## Graphics Processor

- ARM Cortex-A7 processor @ 800MHz
- 256MB SDRAM memory
- 256MB Flash memory
- Two 10/100MBit ethernet ports
- USB 2.0 high-speed
- TFT LCD interface
- Linux ver. 4
- Ethernet link to engine board – allows loosely-coupled co-processing

## Graphical User Interface

- Allows user to switch between GUI and Classic Mode UI
- Day and night mode
- Table data entry with collapsed arrays and pop-ups
- Message Center and Alerts
- Graphic real-time status

## Engine Board - Ver. 6

- Meets and exceeds ATC Standard ver. 6.25
- Meets Caltrans TEES 2009 + Errata 1 & 2
- Supports ATC API
- PowerQUICC 2 Pro @ 400MHz
- 2nd QUICC for port expansion
- 128MB DRAM - 512MB ready
- 256MB Flash - 1GB ready
- 2MB SRAM (SuperCap-backed) – 4MB ready
- Linux ver. 3.4.118
- SD Card – high-speed SDIO interface



## Keypad

- Firm rubber keypad with large keys
- Metal dome tactile switches
- Generous 0.8" spacing
- Key assignments friendly to 2070 and 980 ATC users
  - Dual-labels provide 1-1 mapping to 2070
  - Retains ATC controller 980 alternate functions
  - Dedicated brightness function key

## 5 Ethernet Ports

- 2 - Ethernet switches, one per engine board ethernet
- 2 - 10/100 ethernet ports per switch
- 1 - 10/100 ethernet port to graphics processor

## "Active" Indicator

- Bi-color LED - Red and Green

## 3 USB 2.0 High Speed Ports

- 2 - USB ports from engine board
- 1 - USB port to graphics processor

## ATC Console Port

- ASYNC EIA-694 (RS232), also for devices (SP4)
- 115.2Kbaud, Tx/Rx

## NEMA TS-2 Port 1

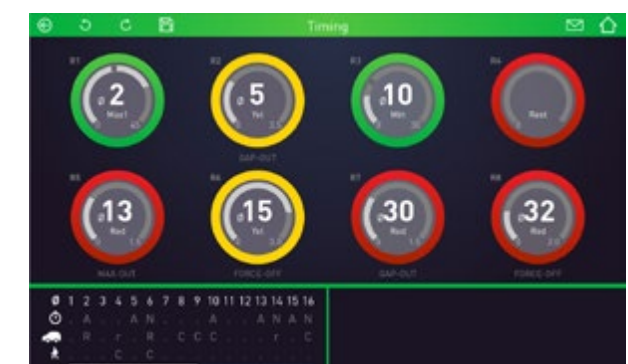
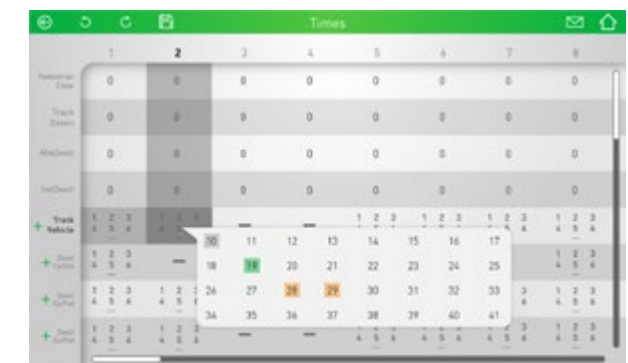
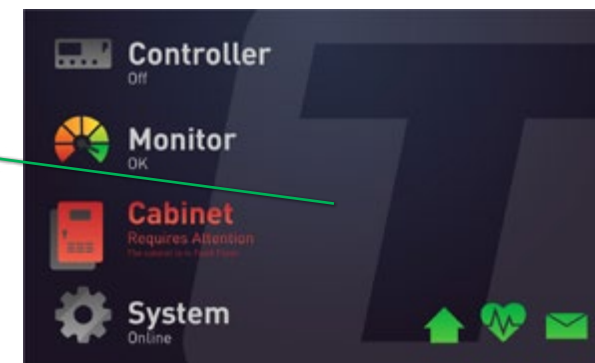
- SDLC port for cabinet communications
- 153.6Kbps

## NEMA TS-2 Port 2

- ASYNC EIA-694 (RS232) for devices (SP8)
- 115.2Kbaud, with modem control

## Speaker

- Loud, front-mounted speaker
- Supports tones and full audio



# Features Comparison

FEATURE	COMMANDER™	Brand X*	Brand Y*	ATC v6.25 / (TEES)
<b>Enclosure</b>				
Dimensions (H x W x D)	8.2" x 15" x 6.5"	8.5" x 14.8" x 6.4"	10.5" x 14.8" x 7.8"	
Carrying Handle	2, integral, sides	integral, rear		
<b>Engine Board</b>				
ATC Standard Compliance	ver 6.25	ver 5.2b	ver 5.2b	
Processor	PowerQUICC 2 Pro	PowerQUICC 2 Pro		PowerQUICC 2 (TEES)
Additional Comm Processor	QUICC			
Speed (MHz)	400	233		
DRAM (MB)	128	128	64	64
FLASH Memory (MB)	256	64	64	32
SRAM (backed up) (MB)	2	2	1	1
Linux Version	3.4.118	2.6.3x	3.4	2.6.18
<b>User Interface</b>				
Display - Color Graphic	800 x 480		240 x 120	
Sunlight Readable	Y	Y		
Display Heater Option	Y			Optional
Graphics Support	HTML5		Android™	
Keypad (# of keys)	29	28	28 (2070)	28
Key Spacing	0.8"	~0.8"	0.5"	
Tactile Keys	Y	N	Y	
Touch Panel	Y	Y	Y	
Speaker	Y	Y		Beeper
<b>Communication Ports</b>				
Ethernet	5	4	4	4
Ethernet (Graphics Processor)	1			
Serial Port (NEMA Ports 1 & 2, C50S)	Y	Y	Y	
USB Ports	3	2	4	1
USB (Graphics Processor)	1			
Datakey Socket (side)	Y	Y	Y	Optional
SD Card Socket, Internal (Speed)	Fast			Optional
SD Card Socket, External (Speed)	Serial			
24V DC Over-Current	Electronic	Electronic		Yes
Comm Status Indicators	Y		Y	Yes
Comm Slot (side)	Y	Y	Y	Optional

\*Other controller specifications based upon published data as of 04/01/2018