



**Name:** CommBox Classic

**Description:** The only really complete control system. It integrates a rack full of equipment into one compact, easy to install unit.

CommBox Classic avoids the need for additional equipment and reduces total costs. It does not need a thick catalogue of optional extras. Everything is designed in to meet your present and future needs. You gain complete control of rooms, lighting, audio, video, cameras, computers etc.

CommBox Classic can monitor room activity by analysing sound patterns in the room, thus detecting if the room is empty and can close down lighting and air conditioning systems, saving energy.

CommBox Classic's inbuilt network capability allows multiple rooms to be monitored and controlled from a central location. CommBox control processors are more flexible, and more easily programmed than any other control processor on the market.

### Audio Facilities

Two balanced mic inputs with phantom power capability.
One "effects" output for mics. Line level, no control.
Mic Mixer has 1, 2, front/back and master faders and EQ.
Three line-level stereo inputs.
Stereo Decoder for Video Commander (plug-in option)
Optically isolated Video Commander interface.
Four-input stereo audio switcher.
Level, balance, front/back fade and EQ for line inputs.
Programmable noise gate.
Programmable Mic Priority Auto Fader.
Four line-level unbalanced outputs.
Four 30 watt RMS power amplifiers.
All audio parameters accessible under program control for read and write.
Internal audio facilities may be seamlessly extended by external hardware.
Instantaneous audio and mic levels may be read by user program to take any desired action, i.e. room activity monitor.

### Video Facilities

Four Video Inputs.
Four Video Outputs.
Four Input Video Switcher with audio breakaway or follow

One video input is optically isolated.  
Internal video facilities may be seamlessly extended by external hardware.

#### Control Inputs

Infra-red receiver on front panel  
Bi-directional "IR-bus" for local control and infra-red receivers  
Optically-isolated network and programming port.  
Front panel control via two buttons, a rotary encoder and VF display

#### Control Ports

Seven serial ports - expandable via PIU  
Each output may be soft-configured for "infra-red" or "RS-232"  
Downloadable control codes, protocol and device drivers.  
Peripheral Interface Port for non-serial device control.  
Forty switch outputs - 16 are 240v, 10a rated  
Video Commander control output, optically isolated.  
Eight Analog outputs via PIU

#### Timers

Four separate timer channels  
Resolution - 1 second or 1 minute  
Range - 1 second to 127 minutes  
Fully recursive  
Re-calling a timer cancels pending events

#### Front Panel Diagnostics

System status items that can be monitored from the front panel:  
State of all switch/relay outputs 00 - 47  
Video Switcher state  
Audio Switcher state  
Contents of all variable locations  
State of all timers  
All program audio EQ and fader settings  
All microphone level and EQ settings  
All audio threshold and gain cut settings  
Instantaneous levels of all mic. and program sources  
Currently loaded program filename and file date

#### Programming Language Support

##### Inbuilt firmware routines support:

Serial Communications  
All UART and Infra-Red protocols  
Parallel Communications -  
Single bit or Nibble  
Momentary One-shot  
Toggle  
Set-Reset  
Bit test and branch  
Audio Parameter Programming

Set to level	
Increment	
Decrement	
Level Test and branch	
<b>Analog Output Channel Programming</b>	
Set to level	
Increment	
Decrement	
Level Test and branch	
<b>"Scratchpad" variable programming</b>	
Set to value	
Increment	
Decrement	
Value Test and branch	
Comprehensive set of Boolean and conditional operators	
Macros can be recursive, reentrant, nested and can receive and pass parameters.	
Command input by vector table with parameter passing	
Programming by Windows graphical User Interface on your PC.	
<b>Brief Audio Specifications</b>	
Mic. Mixer Section	
Input sensitivity for 1.5V RMS output (1 ch.)	200uV RMS
Input impedance (auto matching)	200 ohms to 50k
Frequency response, +3dB	20Hz - 25kHz
Phantom Power system	12V common mode
Signal to noise,	1 ch., 1mV 200 ohms, 500mV out -80dBm
Maximum input level (without pad)	15mV
Summed, uncontrolled output (200uV in)	500mV RMS
Output impedance, mixer & summed output	1k ohms
THD, 1kHz, 1mV in, 300mV out	0.035%
EQ range, 50Hz and 15Khz	+12dB
<b>Line input section</b>	
Input sensitivity for 1.5V RMS output (1 ch.)	120mV RMS
Input impedance	100k
Frequency response, +3dB	20Hz - 25kHz
Maximum input level	2.3V RMS
Output impedance, mixer	1k ohms
THD, 1kHz, 300mV in, 300mV out	*0.03%
EQ range, 50Hz and 15Khz	+12dB
Volume range	80dB
Fader range (balance & front-back)	40dB
Channel Separation, 1kHz	78dB
Input - input isolation, 1kHz (switcher)	90dB
* Note that THD for optically isolated input 1 is 0.09%	

<b>Audio Power Amplifiers</b>	
Values given are for 1kHz input, continuous power output in RMS watts with 1%THD.	
Power output, 1 channel driven, 6 $\Omega$	30 watts RMS
Power output, 1 channel driven, 8 $\Omega$	25 watts RMS
2 channels driven (each channel, 8 $\Omega$ )	20 watts RMS
4 channels driven (each channel, 8 $\Omega$ )	16 watts RMS
Sensitivity -	30 watts output 300mV
Input Impedance	8.5k $\Omega$
THD, 1kHz, 20 watts, 8 $\Omega$	0.012%
Frequency response, full power, +3dB	20Hz - 20Khz
Shorted output protection	indefinite
Amplifiers are unconditionally stable when overdriven.	
<b>Brief Video Specifications - switcher &amp; VDA (PCB Rev. 7)</b>	
Input Impedance	75 $\Omega$
Input level (nominal)	1V p-p
Output Impedance	75 $\Omega$
Output level (for 1V p-p in)	1V p-p
Differential Phase	0.05 $\Omega$
Differential Gain	0.02%
Input - input crosstalk (4.43MHz)	-55dB
Note that differential gain and phase for optically isolated input 1 are 4% and 2.5 $\Omega$ respectively. Video gain for input 1 may be varied internally through approximately 10dB.	
Dimensions	420mm x 270mm x 45mm (rack mountable, 1RU.)
Weight	6 Kg
Accessories included	
1 x Mains lead	
1 x Comms cable	
4 x Optical couplers	
4 x 2RCA-2RCA 2 metre leads	
1 x 4RCA-4RCA lead (not TC Lite)	
4 x Speaker cables (not TC Lite)	
Software	TC Win software