



Control head
BCT500



Electronic power management unit
GEP500

INTEGRATED CONTROL SYSTEM FOR MODERN EMERGENCY VEHICLES

Emergency vehicles use optical and acoustic emergency warning equipment to help clear a path in traffic or for signaling when the vehicle is stationary.

This equipment normally consists of a siren amplifier, priority warning lights, a sequential SignalMaster for the lightbar, and several auxiliary and work lights.

The installation of independent control and amplification devices can cause difficulties regarding the location of the electronic power units, the preparation of cabling and the choice and installation of switches and controls.

The new **ICS2010** Integrated Control System integrates all controls into a single unit, the **BCT500** control head, and groups together all the relays, fuses and electronic power circuitry into the **GEP500** Electronic Power Management unit. The result is the most advanced solution for controlling all the devices that comprise the installation of emergency warning equipment.

This ease of installation is enhanced by operational flexibility. For instance, the BCT500 control head has a microprocessor loaded with a variety of operating programs, and the GEP500 Electronic Power Management Unit may be installed inside the emergency vehicle or on the inside of a Vista series lightbar.

QUICK REFERENCE

CHARACTERISTICS

BCT500 Control head

- Control head with on/off switch, operation pilot light indicator, backlit keypad with 13 functions, microphone, volume control and push to talk (PTT).
- 3-pin articulated support bracket.
- Microprocessor-based button control in an attractive, compact housing.
- Program loadable in flash memory (distributors or clients with large vehicle fleets may load the program they require).
- SignalMaster™ controller built-in.
- Option of configuring versions within a program.
- Communication with the GEP500 via an RS-485 bus, using a flat telephone cable.

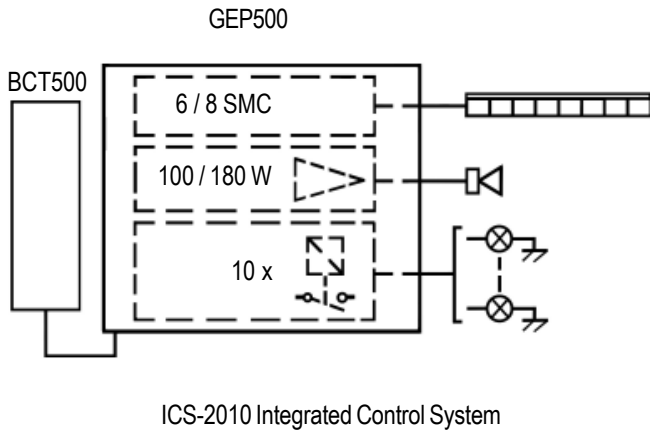
GEP500 Electronic Power Management Unit

- Control by means of the BCT500 control head via an RS-485 bus.
- Standard wail, yelp and two-tone siren sounds. Other specific tones are available for different countries, on order.
- Input of radio and megaphone signal.
- Light control by means of 10 relays.
- Internal light failure sensors and input for an external sensor (optional).
- Output for tachograph control (optional).
- Input for change of sound by using horn.
- Integrated control of SignalMaster with 6 or 8 lamps.
- Protection fuses include diagnostic indicator lights.



BCT500 Control head installed in the vehicle.

ICS2010 INTEGRATED CONTROL SYSTEM



CHARACTERISTICS

The on/off switch is easily accessible and identifiable by touch. When switched on, the keypad lights up. The intensity of the keypad lighting can also be adjusted. On the front of the BCT500 are 13 silicone keys, five of which are on a "joystick". The active keys are indicated by being more intensely lit than the rest. Besides controlling the siren and all emergency lights the control head also includes a microphone for the megaphone on the vehicle, and has both volume and PTT controls built-in. All functions are attractively packaged into an ergonomic, easy-to-use design.

BCT500 CONTROL HEAD

BI-DIRECTIONAL COMMUNICATIONS

The **BCT500** control head was developed to control devices using a bi-directional communication link. Control data is transmitted via a RS-485 bus, establishing a dialogue between the microprocessor in the control head and the microprocessor in the power management unit.

SPECIAL OPERATION PROGRAMS

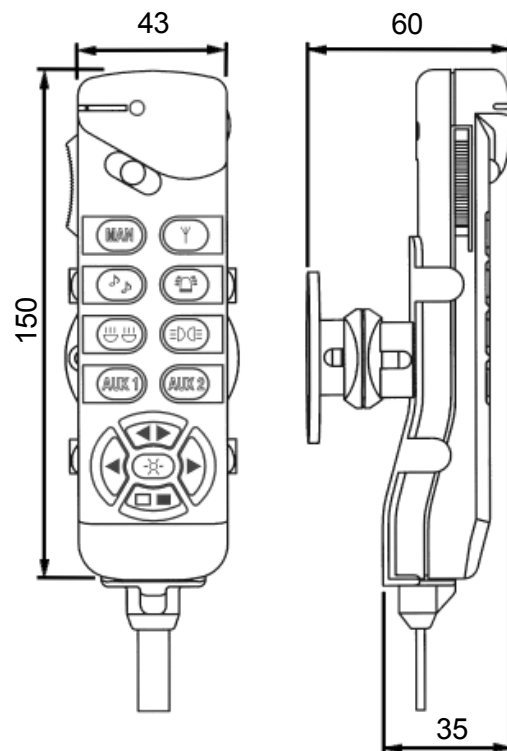
A new feature in the BCT500 is its flash memory, with high-speed recording, which allows different operating programs to be loaded as often as the client requires. There are 4 jumper switches inside the control head that allow 16 optional subprograms to be selected from the main program.

The BCT500 allows customization for distributors or clients with large fleets. New programs can be loaded by connecting the control head to a PC using a special loading device and software, which is supplied to order (to be specified when the order is placed).

In addition, for distributors or clients with large fleets, keypads with specially embossed character sets can be supplied.



BCT500 Control head with articulated base unit and connector box



ICS2010 INTEGRATED CONTROL SYSTEM

GEP500 ELECTRONIC POWER MANAGEMENT UNIT

EXTRAORDINARY VERSATILITY

The **GEP500** Electronic Power Management Unit allows the most complete solution for managing emergency signaling devices, all integrated into a single unit.

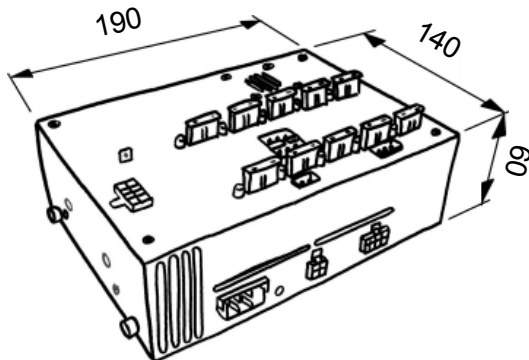
STANDARD OR SPECIFIED SOUNDS

The siren amplifier produces standard sound functions (wail, yelp, and two-tone sound) or tones specific to each country, based on the program loaded into the BCT500 control head.

The amplifier has separate input sockets for the megaphone and vehicle radiotelephone. Both inputs are different than that used for data transmission between the control head. This design has been proven effective in previous models.

COMPATIBLE WITH A WIDE RANGE OF LOUSPEAKERS

The audio output of the amplifier is 100W with one speaker, or 180W with two speakers. The following is a suggested list of speakers that may be installed:
AL-252, AL-257, MS-100, BP-100, MC5Z, TS-100 and TS-100N.



LIGHT CONTROLS

For the general control of lights and other functions, the amplifier has 10 relay output ports with a maximum intensity of 10A per output port.

All the output ports are fuse protected. The specific functions to be carried out by each output port and the correlation between them are defined by the program loaded in the BCT500.

LOAD CONTROL AND MANAGEMENT

The GEP500 includes a new load management feature that limits the number of light relays that can operate simultaneously, in order to limit the maximum power consumption and strain on the vehicle electrical system.

SIGNALMASTER CONTROL

The GEP500 also includes a SignalMaster control, capable of controlling six or eight directional halogen or LED lamps with 2.5A outputs.

CONNECTION TO A TACHOGRAPH AND LAMP FAILURE MONITOR

Additionally, options include an output for recording on a tachograph (maximum 0.75A using a 1-A fuse), and two relays for priority lights that can include an optional sensor, capable of detecting lamp failure. Finally, there is also an option for input from an external light failure sensor.



GEP500 Electronic Power Management Unit

ICS2010 INTEGRATED CONTROL SYSTEM

INSTALLATION

INSIDE THE VEHICLE

Because of its small size, the GEP500 offers a wide scope of installation possibilities. For example, beneath the dashboard, under the seats or in the boot.

To facilitate installation, the unit is supplied with two different metal brackets together with the related screws.

INSIDE THE FSV VISTA™ LIGHTBAR

The GEP500 is also designed to fit in the middle section of a Vista lightbar, offering maximum space utilization.

The top of the GEP500 has connectors for power output, whereas the front has those for the amplifier and control. This helps ensure accessibility in different installation configurations.

HOW TO ORDER

According to the installation method:

1. Inside the vehicle:

Specify version: country code and voltage.

ICS2010 (+ country code + voltage) comprised of:

- One BCT500 Control head (+ country code + voltage).
- One GEP500 Electronic Power Management Unit (For mounting inside the vehicle).

2. Inside the Vista lightbar:

Specify version: country code and voltage.

X-ICS2010 (+ country code + voltage) comprising:

- One BCT500 Control head (+ country code + voltage).
- One GEP500 Electronic Power Management Unit (For mounting inside the Vista lightbar).

BCT500 SPECIFICATIONS		
Power	12V ±20% dual voltage	
Microprocessor	Flash memory	8 kbytes
	SRAM memory	512 bytes
	EEPROM memory	512 bytes
Keypad	Silicone with conductive tracks	
Number of keys	13	
Keypad lighting	LED backlighting	
Megaphone microphone	Electret	
Megaphone volume control by potentiometer		
Side Push-to-Talk button		
General switch and operation pilot light		
3-pin articulated support		
Communications bus	RS485	
BCT-500 control head size	150 x 43 x 35	
Weight	140 grams	

GEP500 SPECIFICATIONS		
Power	12V ±20%	
Operating temperature	-20°C / +60°C	
Weight	1800 grams	
GEP500 size	60x140x190 mm.	
Siren amplifier		
Output power at 13,5V	with one 11 Ω speaker	100 W
	with two 11 Ω speakers	180W
Power consumption	with one 11 Ω speaker	10 A máx.
	with two 11 Ω speakers	18 A máx.
Output voltage	60 V pp	
Standard BCT500 frequencies	600 - 1350 Hz	
	WAIL	12 c. / min.
	YELP	180 c. / min.
	TWO TONES	450 - 600 Hz
		33 c. / min.
Audio signal input		
Harmonic distortion	0,87% (35W, 1000Hz)	
Pass-band+ -3dB	90Hz-28 KHz (at 1000Hz)	
Radio input signal level	2.5V	
SignalMaster Controller		
	SignalMaster for 6 lights	6 x 2.5 A
	SignalMaster for 8 lights	8 x 2.5 A
Output relays		
Light relays	10 x 10 A	
Auxiliary functions		
Tachograph (optional)	1 x 0.75 A max.	



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