

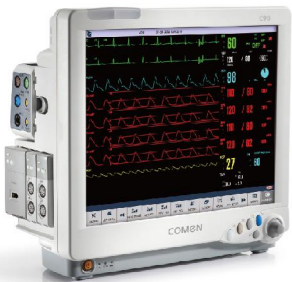
# COMEN

## C30 Emergency / Transportation Monitor

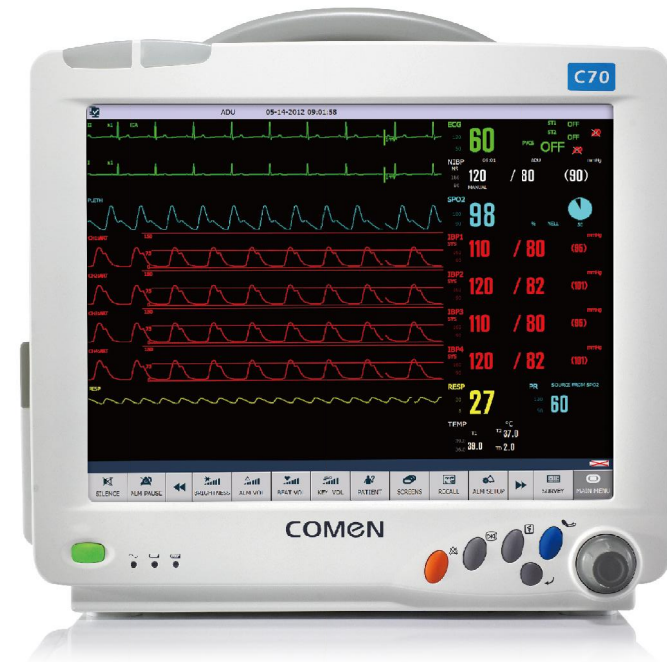


Comen C30 is a new generation of specialized ambulance&transport monitor. It is designed according rescuing site and ambulance transportation monitoring requirements for practicability, convenience and reliability of emergency treatment, first aid and transportation. It adopts PC/ABS high-strength project plastics, high-reliability Linux operation system and high-brightness scratching-prevention LCD. It is equipped with specialized first-aid monitor bag with fitting management pack and first aid device collection pack able for multi-carry . The entire machine is portable, solid, reliable, stable, waterproof, fireproof and anti-falling. It also can be displayed clearly under strong sunshine in the field. It also can be used under various kinds of severe environment to meet demand of medical agents such as troops and hospital, etc during emergency treatment, first aid and transportation in the field.

## C90 Modular Monitor



C90 monitor is integrated with the world-leading life parameter monitoring technology and IT application technology to make a high-end life monitoring platform and provide comprehensive monitoring solution. To monitor the patient parameter comprehensively and integratively from the first-aid spot to the covery as a complete management system.



## C70 Modular Monitor

### Classic Continuation, Continuous Innovation

C70 is inherited the outstanding character of our modular Monitor C90 and adopted with highly integrated modular mechanical structure, it efficiently combines the structure,function and maintain management.C70's single-module and multi-module can combination at will to meet the upgrade in Clinical need.C70 opens a new chapter in modular monitor field.

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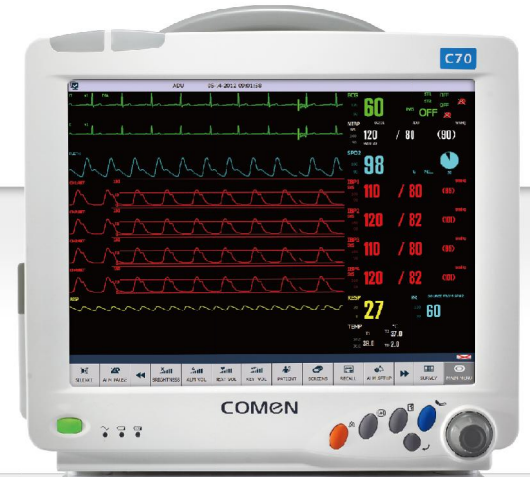
# External Design

Highly integrated modular mechanical structure, easy to remove and maintain, easy to upgrade. Flexible, Reliable, Stable C70 ensure Doctor's work with confidence.



- Glance modular mechanical structure design, easy disassembly and maintenance, with a high degree of reliability and stability
- Machine fanless design, and fundamentally prevent recontamination
- Aluminium-magnesium alloy stent design, lighter, more stable and better heat dissipation
- Large-capacity lithium battery with intelligent control chip, power control accuracy of up to 1%, ≥ 4 hours working time on a single charge, effectively extending the battery life
- Module data transfer use infrared transmission mode for prevent electromagnetic interference

- 12.1inch LED backlit display, bright, low power consumption, efficiency; touch screen and button operation, dual protection



- Handle: natural, comfortable, solid

- DVI - D interface, support digital high definition video signal output  
USB ports, support keyboard, mouse operation, USB data transfer, software upgrades, etc



- Optional built-in 3-channel high precision thermal printers and support external laser printing

# Hardware technology - module

3+1 functional module slot, support plug and play, full-module random combination, automatic software identification, and interface dynamic combination



- Brand new multi-parameters modular, integrated the various parameters measurement efficiently, maximum 8 connection sockets, meet different departments' demand
- Standard  
ECG, HR, RESP, TEMP, SpO<sub>2</sub>, NIBP, 2-IBP
- Optional  
EtCO<sub>2</sub>, ICG, C.O., IoC, AG, 12-lead ECG



## • IBP (invasive blood pressure) module

By using US Abbott / Medex invasive blood pressure attachment it can monitor arterial pressure, pulmonary arterial pressure, central venous pressure, and intracranial pressure, etc.



## • C.O. (invasive cardiac output) module

C70 is involved itself in invasive cardiac output technique, but C.O. measurement is conducted with conventional thermo dilution invasive cardiac output and other hemodynamic parameters. The monitor can measure "blood temperature", "calculating cardiac output", "calculating hemodynamics". The cardiac output is measured with floating catheter led from vein to pulmonary artery followed by injecting a certain amount of ice water at 0°C (injecta) such that the blood temperature will be varied after the injecta and blood output from the heart are mixed together thereby achieving cardiac output by measuring blood temperature variation before and after injected in accordance with the principle of heat balance.



## • ICG (noninvasive blood flow dynamics) module

Collaborated with US BIOZ® an impedance ECG is adopted to realize noninvasive blood flow dynamics monitoring, which is characterized by its noninvasive, continuous and highly accurate and strong interference-resistant capability as well as lower cost and easy operation. A disposable special electrode is used to transmit a tiny electric signal through chest. The impedance of the electric signal can be measured and displayed in an ICG waveform. As blood volume and blood flow rate in the aorta vary along with each subsequent heartbeat a DISQ® ( digital impedance signal quantification ) technology is used to cope with variation of impedance signal. The impedance variation is used in non-invasive ZMARC™ algorithm (the aorta compliance regulation) so as to obtain hemodynamic

# Software technology-interface



- EtCO<sub>2</sub> module

We chose US RESPIRONICS / Sweden PHASEIN mainstream/ side stream (mini flow) CO<sub>2</sub> module. As small size, durable quality and light weight, the mainstream sensor can be used for all intubated patients from newborn child to adults for an accurate reliable CO<sub>2</sub> monitoring. It can be automatically corrected. An LoFlo side flow probe (without de-watering bottle) is used to monitor non-intubated patients. The flexible and compact CO<sub>2</sub> sensor can provide adults, child and newborn babies for a continuous and reliable CO<sub>2</sub> monitoring. The sampling rate (miniflow) is ≤50mL/min.



- qCON / BIS (Depth of Anesthesia) module

The qCON/BIS module has been designed to be used in the monitoring of the level of consciousness of a person during the application of general anaesthesia or in intensive care. This is accomplished by registering the electroencephalographic signal (EEG) by means of surface electrodes which is then analyzed by a digital process. As a result of the applied calculation, an index "qCON/BIS" is obtained, which serves as guidance to the experts who use it to determine the level of consciousness of the patient during surgery.



- AG (anesthetic gases) module

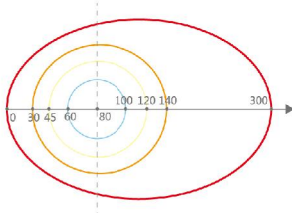
Collaborated with Sweden PHASEIN AG module. It is able to monitor eight different gases (O<sub>2</sub>, CO<sub>2</sub>, N<sub>2</sub>O, ENF, ISO, DES, SEV, HAL). It can automatically identify what kind of anesthetic gas is in use, characterized by its short period of preheat time and long service life as well as MAC value provided (minimum alveolar concentration).

- Alarm System

Three level alarm system 360 degree for observation, easy to see physiological and technical alarm; Unique I-KLOK<sup>®</sup> intelligent alarm technology: I-KLOK<sup>®</sup> tech can identify alarm grade automatically according to physiological parameters change; in different three level of visual & audio alarm, to help medical staff to make accurate judgment.

HR Alarm Setup

Normal	60 ~ 100
Slight abnormal	45~59 ; 101~119
Slight urgent	31~44 ; 120~139
Critical	<30 ; >140



- Strong network function, supports wire, wireless and 3G connection

- Prompt module identification and interface switching without flashing

- Unlimited extension module with automatic software detection and dynamic interface adjustment

- Interface



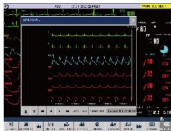
Module MAP diagram: to display operating status of modules



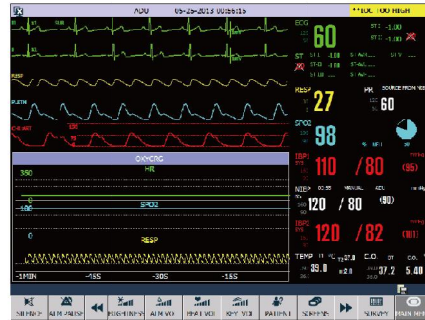
Complete touch operation design to bring in new touch experience



At most 8 channels of waveform display; Various parameter waveforms can be combined and switched freely according to user's demand



ECG waveform review display minutes ECG waveform review, important waveform segment withdraw for clinical judgment, analysis of important information



New data storage mode: non-compression, waveform distortion; With Power-off storage function; Which can save 150 hours trend diagram & chart; 2000 groups NIBP list and 120 minutes waveform review;

Respiration oxygenation chart interface: It consists of HR, SpO<sub>2</sub>, RR trend or compressed respiration wave. 4 trend periods such as 1 minute, 2 minutes, 4 minutes and 8 minutes is selectable. Compressed respiration wave or dynamic trend diagram of RR also can be selected.

Large font interface: Long-distance clear observation, especially suitable for ICU, CCU, operating room, night guard and patrol inspection.



7-lead/12-lead ECG waveform displayed in one screen: lead acquisition & amplification. Rhythm lead calculation can be selected randomly and synchronous display on the screen.



ST analysis, arrhythmia analysis, drug dose calculation, titration form and CIS electronic medical record;



Other bed review interface: display other bed information such as bed No., patient's name, alarm information and parameter setup. It supports 4 other beds waveforms. Users can configure dynamic configuration and waveform.



List interface: Automatic record NIBP, HR, PR and pulse oxygen respiration convenient for clinical comparison & observation.



Trend interface: Trend review for 150 hours can be selected. It captures different scopes of date according to clinical demand.



Calculation interface: It includes drug, oxygenation, ventilation and renal function (The system can store the last 10 calculations)

# Admission and discharge management of C30

## • C30

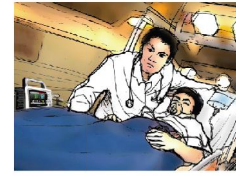
C30 transport monitor coped with independent operating system which can be used either for C70 plug-in module C30 used together with C70 can be displayed with double screens simultaneously  
 Patient data can be swapped between C30 and C70, C30 can help to realized the data transfer and to share the data between C70 one another  
 C30 built-in 2600mAh lithium cell can support hot swap with power on thereby transferring patient's information monitored without any obstacle



1 Arrived at the spot



2 Put on to ambulance



3 Lifted onto stretcher



4 Sent to an emergency room

After C30 ambulance transport monitor connected into C70 modular monitor, the patient would be fully monitored with C70. C70 will take over to monitor and start working.



5 Transferred from emergency room to an operating room



6 Treated in the operating room

C70 modular monitor will carry out all-round monitoring and diagnosing of patient's condition in the operating room, thereby displaying twelve-channel ECG on the screen simultaneously. The accurate ECG measurements will help doctors to make good diagnosis thereby, allowing operation carried out more smoothly. Combination of an anesthesia machine, respirator and C70 will help doctors to control operation time more accurately.

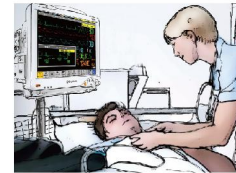


7 Transferred from the operating room to ICU unit



8 ICU ward

C90 modular monitor has taken an important position in ICU ward; as a device to directly display the patient's condition after operation, it allows doctors to control the condition at any time in ICU, and it will give an alarm under abnormal condition to remind medical staff such so that the patient's condition could be effectively controlled until the patients are gradually recovered.



9 Transferred a general ward

The patients will be transferred to general ward after their condition improved and became stable; the patient's information accumulated in operating room and ICU unit will be transferred through a small host C30 to a large frame C70 modular monitor to ensure the continuity and real-time updating for patient's information.



10 Discharged from hospital  
Filing up the patient's records.