



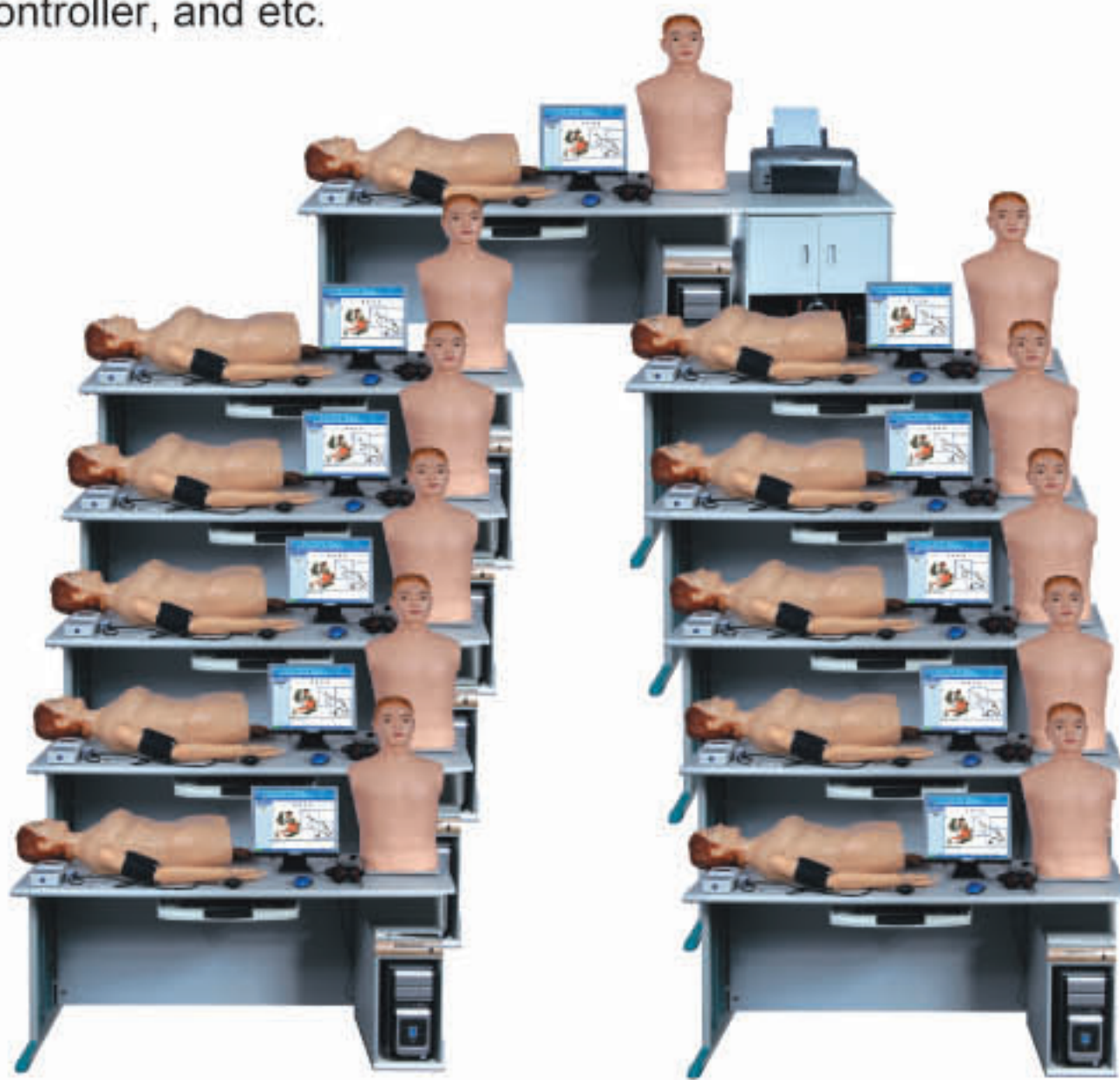
Physical Examination Training Simulator

MB Series High Intelligent and Digital Network of Medical Examination Teaching System

(Cardiopulmonary auscultation and palpation, abdominal auscultation and palpation, breast palpation and blood pressure measurement)

MBseries products have been used by many famous medical schools and hundreds of hospitals. Taking more than 200 experts and professors' valuable experience and advice, our project team have been able to redevelop MB/TCZ9600 products. The newest MB/TCZ9900 series products are developed according to the seventh edition of the latest nationwide medical colleges and universities unified textbook "Diagnostics "with the latest technology by eight experts and professors who come from the Medical College of Shanghai Fudan University, Shanghai Jiaotong University, Tongji University, the Secondary Military Medical University and other institutions. All the simulative effects and performances have been greatly improved.

The products system consists of MB/TCZ9900A, MB/TCZ9900B, MB/TCZ9900C and MB/TCZ9900D. The products include software, cardiopulmonary auscultation and palpation manikin, abdominal palpation and auscultation manikin, blood pressure measurement arm, system controller, and etc.



Features of manikin:

he body cavity is made of imported PVC material injected through stainless steel mold ,
simulative skin is made of imported plastic material casted by carving steel mold in high
temperature, with features of anti-high temperature and low temperature(+60 C ~ -40 C),
non-deformation and invariable flexibility.

Half-body standard erect male manikin is for chest cardiopulmonary auscultation and palpation,
rotatable and easy disassembly and maintenance.

The auscultation manikin adopts RFID so that cardiopneumatic sounds would not be distorted;
with audio mixing technology, auscultation signs can be realistically reproduced. Three
auscultation ways: voice box, ear phone and manikin.

The large half-body supine female manikin is for abdominal palpation and auscultation.

The simulated patient can display slow abdominal breathing, abdomen may intumescence
when inspiration, and subside when expiring. Subphrenic organs move up and down
with breathing. With tenderness and rebound tenderness, when touch the pain spot,
painful crying and respiratory depression would occur.

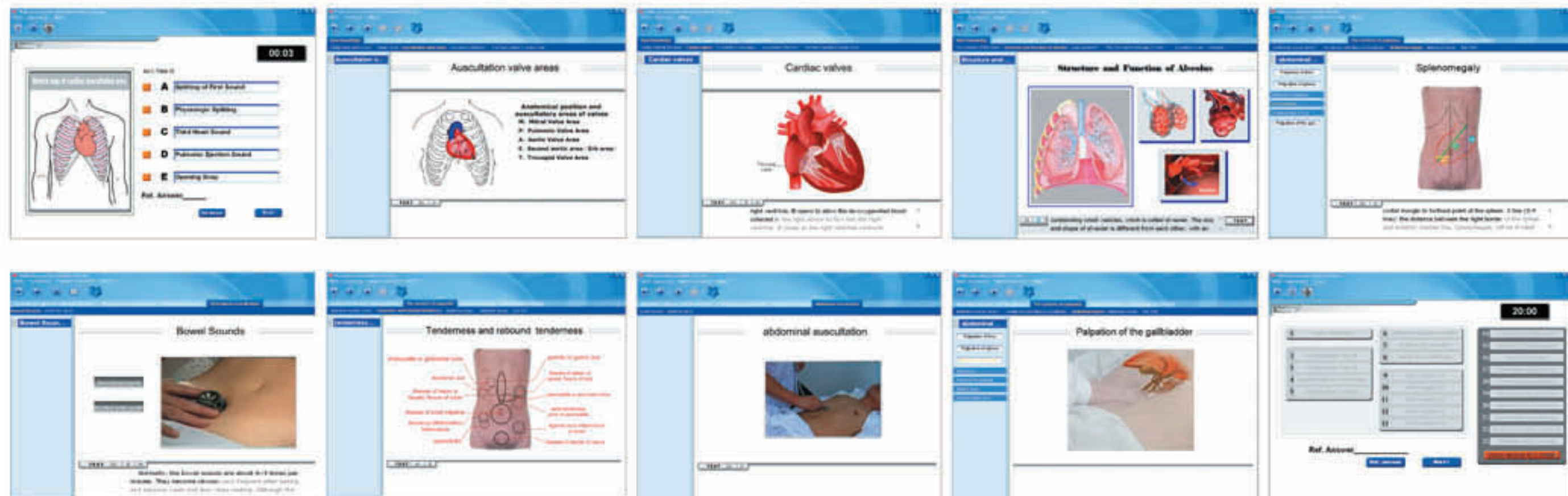


Hard ware		Features
Chest cardio -pulatory auscu ltation and palpation manikin	Heart auscultation	● Vividly reproduce nearly a hundred species, including auscultation of heart rate, cardiac rhythm, changes of heart sound, additional heart sound, murmurs, pericardial rub, heart sound conduction and rare heart disease
	Lung auscultation	● Break through the limitation of fewer auscultation parts, successfully implement whole lung auscultation, and much closer to reality; provide more than 70 kinds of respiratory sound auscultation, eg: normal respiratory sound, abnormal respiratory sound and additional sound;
	Identification of auscultation(heart)	● Integrated of 11 kinds of triple rhythm, teachers and students can choose any two kinds of heart sound to make a comparison; meanwhile it can also make comparisons for the easily confusing heart sound. Two kinds of contrasting heart sound can respectively appear on the corresponding parts of manikin to strengthen the learning effect.
	Identification of auscultation(lung)	● A dozen of respiratory sound is chosen for identification, two kinds of easily confusing sound can be heard respectively in the left and right lung of the simulated patient,
	Heart palpation	● Apical pulse and tremor
Abdominal palpation and auscultatio n manikin	Palpation of liver	● Automatically and even abdominal breathing of manikin, different size and texture of the liver can be touched. The intumescent liver can reach to one finger, two fingers or four fingers of the subcostal. The liver texture is soft as touching lip, median as touching nasal tip and hard as touching forehead
	Palpation of spleen	● According to the palpation content, manikin would automatically show corresponding physical signs and even abdominal breathing, can touch different size of spleen. The intumescent spleen can reach to one finger, two fingers or four fingers of the subcostal. For the large spleen can touch the splenic impression
	Palpation of gallbladder	● Normal gallbladder and cystic enlargement palpation; cystic mass of the enlarged gallbladder ● For the tenderness examination, if it is positive, the manikin would have pain crying; for Murphy sign examination, the simulated patient would have pain crying and suddenly hold breathing if it is positive
	Comprehensive physical signs palpation	● Dozens of common united signs of liver, gallbladder and spleen are designed in accordance with the anatomical and pathologic physiology features of abdominal organs, to strengthen the understanding of the links of organs.
	Tenderness and rebound tenderness	● Tenderness sites: gastric ulcer, duodenal ulcer, pancreatitis, appendicitis, sigmoiditis ● Rebound tenderness: necrotizing pancreatitis and purulent appendicitis ● Simulated patient would have pain crying if the palpation is correct
	Palpation of Breast	● Identify the size and site of common benign tumor, malignant tumor, lymph follicle and lobular hyperplasia
	Auscultation of abdomen	● Support auscultation of normal bowel sound, increased bowel sound, bowel sound disappeared ● Support auscultation of vascular murmur of renal artery stenosis
	BP measurement	● The model is an adult right arm with obvious body surface signs and accurate anatomical positions, which can provide arterial blood pressure measurement by using real blood-pressure meter and auscultator ● With Korotkoff Gap sound, volume can be adjusted ● Systolic pressure, diastolic pressure and pulse frequency can be set separately; unit of BP is mmHg; LED screen display

Multimedia Teaching System Software

Applying multimedia technology, the software produces more than 160 synchronous multimedia animated cartoons, more than 80 copies of video data, more than 130 pieces of phonocardiogram, respirophonograms and a large number of anatomical images and ECG, which are combined together effectively. Students can observe heartbeat and valve activity as in real patient, at the same time they can hear heart sound and respiratory sound collecting from the clinic, on the corresponding sites of the simulated patient. Realistically reproduce the anatomical characteristics of liver, spleen and gallbladder; vividly describe the key points of liver, spleen and gallbladder palpation. With pictures and text, interactive control with manikin, so that theory and practice can be closely integrated. Multimedia intelligent examination questions highlight the advanced teaching method of repeated practice and intensive training. The system is available for LAN teaching, group synchronous teaching, students self-practice and review, talkback between teacher and students; it can be connectd to video showing platform or large screen TV for group teaching.

Software	Functions	Features
Chest auscultation and palpation software	Heart	<ul style="list-style-type: none"> Explain knowledge of cardiac anatomy, auscultatory valve areas, generating mechanism of heart sound, auscultation site, auscultatory characteristic and noise generating mechanism, etc Choose heart sound type and auscultation way Vividly reproduce nearly a hundred of heart sound, eg: normal heart sound, extraheart sound, pericardial friction rub, murmurs, heart sound conduction, rare heart disease, etc
	Lung auscultation	<ul style="list-style-type: none"> Explain knowledge of anatomy of lungs, alveolar structure and function, generating mechanism of respiratory sound, auscultation site, auscultatory characteristic, etc Choose respiratory sound of different ages(adult, child and old people) Vividly reproduce more than 70 kinds of respiratory sound, eg: normal respiratory sound, abnormal respiratory sound, additional sound and pleural friction rubs, etc
	Identification auscultation	<ul style="list-style-type: none"> Identification auscultation of easily confusing heart sound and respiratory sound with diagrams; any two groups can be choose;
	Mode option for heart sound auscultation	<ul style="list-style-type: none"> According to the teaching need and study progress, two different auscultation conditions of monotony auscultation and cardiopulmonary mixing sound auscultation can be chosen Auscultator volume can be adjusted PA (public address) auscultation: Putting auscultator on the different parts of manikin, it would carry out PA auscultation for the corresponding heart sound and respiratory sound, which is convenient for all members' synchronous teaching
Abdominal palpation and auscultation software	Palpation of abdomen	<ul style="list-style-type: none"> Explain abdominal mark, abdominal areas, abdominal palpation method, remarks of abdominal palpation
	Palpation of liver	<ul style="list-style-type: none"> Elaborate anatomy of liver, body surface projection, one hand palpation and bimanual palpation, palpation mechanism, palpation method, common errors of liver palpation, palpation content and clinical significance, etc Master the key point of liver palpation method, normal and abnormal palpation content, brief pathogenesis and clinical characteristic;
	Palpation of spleen	<ul style="list-style-type: none"> Elaborate anatomy of spleen, palpation mechanism, palpation method, key points of skills, testing of enlarged spleen, palpation content and clinical significance, etc Master the key points of spleen palpation, measure the three lines of splenomegaly, briefly introduce the pathogenesis and clinical characteristic;
	Palpation of gallbladder	<ul style="list-style-type: none"> Elaborate the anatomical characteristic of extrahepatic bile duct, anatomy of gallbladder, palpation mechanism, palpation method, Murphy sign examination method and common mistakes, difference between Murphy sign and gallbladder tenderness, briefly introduce the pathogenesis and clinical characteristic Master palpation mechanism, gallbladder enlargement palpation, Murphy sign and gallbladder tenderness, clinical significance;
	Integrated physical signs	<ul style="list-style-type: none"> Totally dozens of kinds, divided into hepatauxe, splenauxe, gallbladder enlarged; liver, spleen and gallbladder are all big, and with size and texture changes
	Tenderness and rebound tenderness	<ul style="list-style-type: none"> Tenderness: gastric ulcer, duodenal ulcer, pancreatitis, appendicitis, sigmoiditis; Rebound tenderness: necrotizing pancreatitis and purulent appendicitis
	Abdominal auscultation	<ul style="list-style-type: none"> Explain the generation mechanism of bowel sound and vascular murmur Provide auscultation of normal bowel sound, increased bowel sound, bowel sound disappeared and vascular murmur of renal artery stenosis
	Palpation of breast	<ul style="list-style-type: none"> Explain the theoretical knowledge of breast palpation method, palpation content, and judgment of the result Distinguish the size and site of common benign tumor of the breast, malignant tumor, lymph follicle and lobular hyperplasia



MB/TCZ9900A Online Version of Medical Examination Skills Training System

(Auscultation and palpation of cardiopulmonary and abdomen, blood pressure measurement)

System Configuration:

Teacher console system

1. One P4 computer (optional equipment)
2. One 17"flat computer display (optional equipment)
3. One set of installation software of cardiopulmonary auscultation and abdominal palpation teaching
4. One system controllers
5. One auscultation manikin
6. One abdominal palpation and blood pressure measurement manikin
7. One electronic simulative stethoscope
8. One teacher console table, one display table and one computer counter (optional equipment)
9. One sound box
10. One headphone
11. One printer (optional equipment)
12. One hub/exchange server
13. One system manual
14. One BP measuring instrument



Teacher console system

Student operation system(TTC)

1. One P4 computer (optional equipment)
2. One 17"flat computer display (optional equipment)
3. One set of installation software of cardiopulmonary auscultation and abdominal palpation teaching
4. One system controllers
5. Two auscultation manikin
6. One abdominal palpation and blood pressure measurement manikin
7. Two electronic simulative stethoscope
8. One blood pressure measure instrument
9. Two headphones
10. One student test-bed and one computer counter (optional equipment)



Student operation system

Note: The layout of the scene is needed and the quantity of student operation system is unlimited.

MB/TCZ9900B Online Version of Medical Examination Skills Training System

(Auscultation and palpation of cardiopulmonary and abdomen, blood pressure measurement)

System Configuration:

Teacher console system

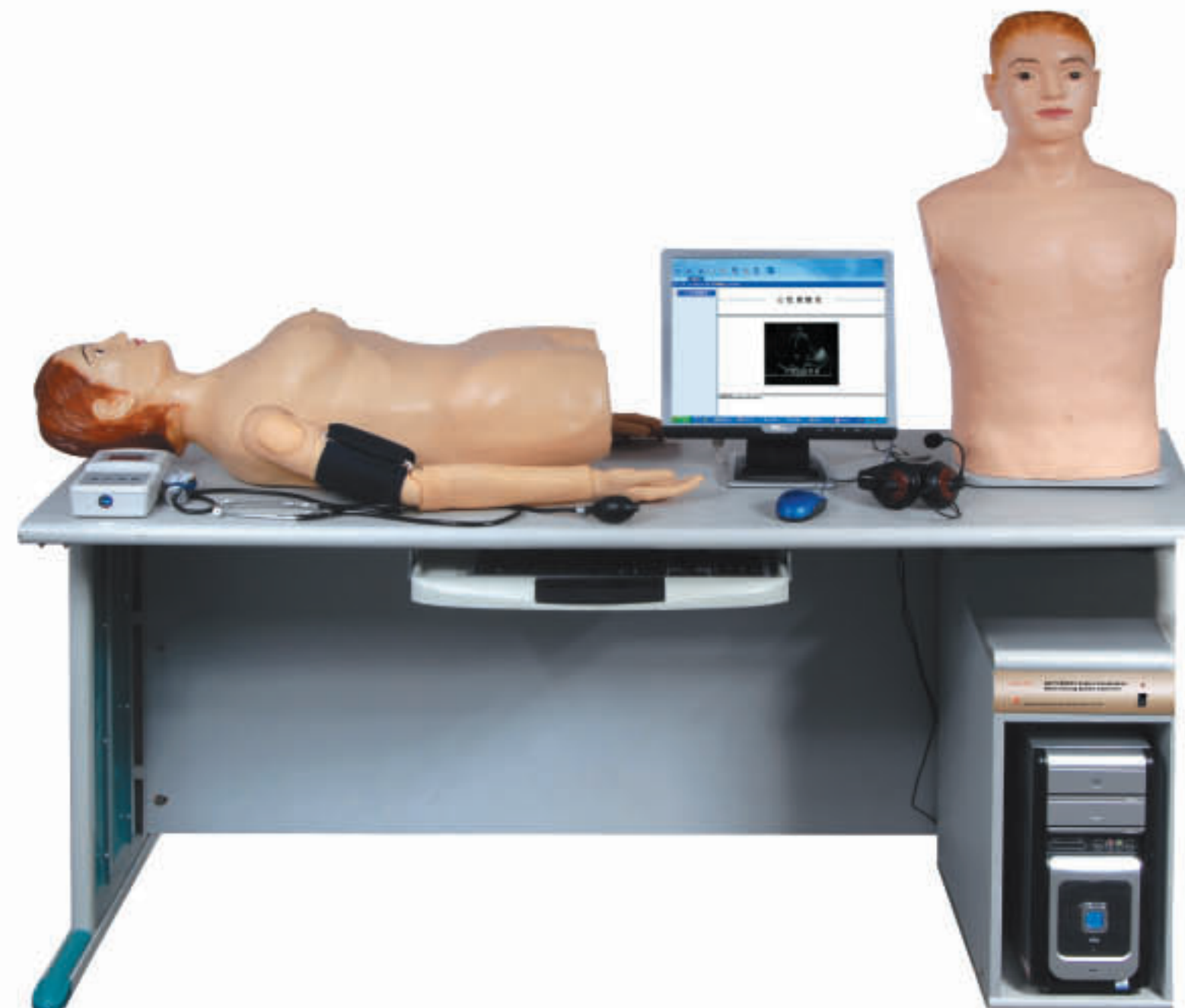
1. One P4 computer (optional equipment)
2. One 17" flat computer display (optional equipment)
3. One set of installation software of cardiopulmonary auscultation and abdominal palpation teaching
4. One system controllers
5. One auscultation manikin
6. One abdominal palpation and blood pressure measurement manikin
7. One electronic simulative stethoscope
8. One teacher console table, one display table and one computer counter (optional equipment)
9. One sound box
10. One headphone
11. One printer (optional equipment)
12. One hub/exchange server
13. One system manual
14. One BP measuring instrument



Teacher console system

Student operation system

1. One P4 computer (optional equipment)
2. One 17" flat computer display (optional equipment)
3. One set of installation software of cardiopulmonary auscultation and abdominal palpation teaching
4. One system controllers
5. One auscultation manikin
6. One abdominal palpation and blood pressure measurement manikin
7. One electronic simulative stethoscope
8. One blood pressure measure instrument
9. One headphones
10. One student operation system and one computer counter (optional equipment)



Student operation system

Note: The layout of the scene is needed and the quantity of student operation system is unlimited.

MB/TCZ9900C Online Version of Medical Examination Skills Training System

(Abdominal palpation and auscultation, blood pressure measurement)

System Configuration:

Teacher console system

1. One P4 computer (optional equipment)
2. One 17" flat computer display (optional equipment)
3. One set of installation software of abdominal palpation teaching
4. One system controllers
5. One abdominal palpation and blood pressure measurement manikin
6. One teacher console table, one display table and one computer counter (optional equipment)
7. One sound box
8. One printer (optional equipment)
9. One hub/exchange server
10. One system manual
11. One BP measuring instrument



Teacher console system

Student operation system

1. One P4 computer (optional equipment)
2. One 17" flat computer display (optional equipment)
3. One set of installation software of abdominal palpation teaching
4. One system controllers
5. One abdominal palpation and blood pressure measurement manikin
6. One blood pressure measure instrument
7. One student operation system and one computer counter (optional equipment)



Student operation system

Note: The layout of the scene is needed and the quantity of student operation system is unlimited.

MB/TCZ9900D Online Version of Medical Examination Skills Training System

(Cardiopulmonary auscultation and palpation)

System Configuration:

Teacher console system

1. One P4 computer (optional equipment)
2. One 17" flat computer display (optional equipment)
3. One set of installation software of cardiopulmonary auscultation teaching
4. One system controllers
5. One auscultation manikin
6. One electronic simulative stethoscope
7. One teacher console table, one display table and one computer counter (optional equipment)
8. One sound box
9. One headphone
10. One printer (optional equipment)
11. One hub/exchange server
12. One system manual



Teacher console system

Student operation system(TTC)

1. One P4 computer (optional equipment)
2. One 17" flat computer display (optional equipment)
3. One set of installation software of cardiopulmonary auscultation teaching
4. One system controllers
5. Two auscultation manikin
6. Two electronic simulative stethoscope
7. Two headphones
8. One student test-bed and one computer counter (optional equipment)



Student operation system

Note: The layout of the scene is needed and the quantity of student operation system is unlimited.

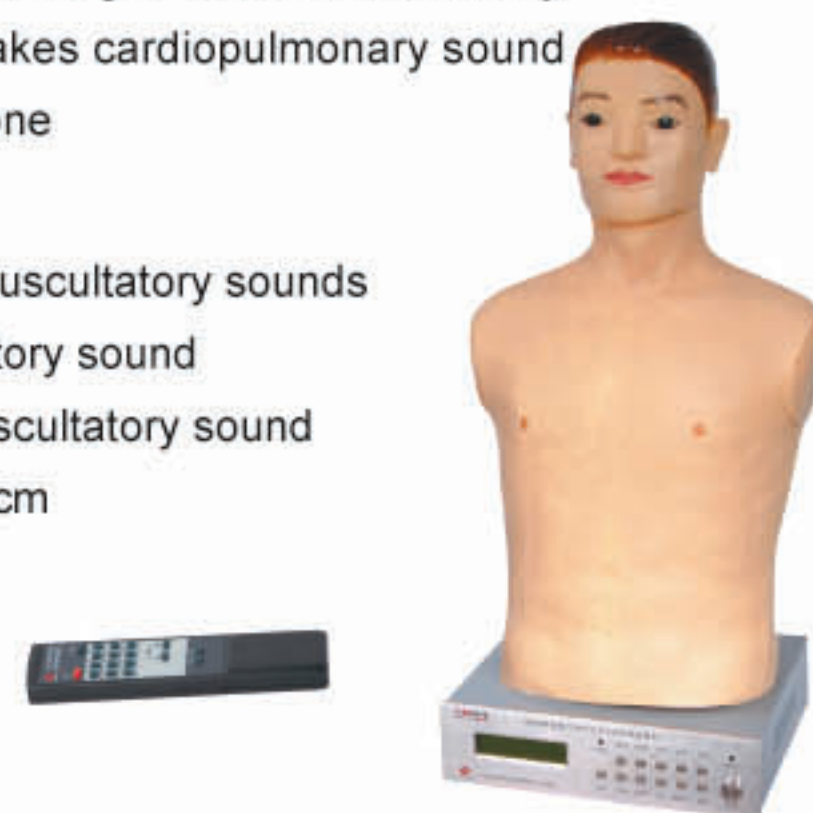
MB/Z990 Digital Remote Controlled Cardiopulmonary Auscultation Manikin

Features:

1. Half-body male manikin
2. Rotatable, convenient to maintenance and delivery
3. Patent technology design: resonance cavity structure principle makes cardiopulmonary sound fully save and keep tone

Functions:

1. Over 80 kind of Hi-fi auscultatory sounds
 2. Auto-display auscultatory sound
 3. Remote controlled auscultatory sound
- Size: 100cm x 58cm x 38cm
G.W.: 16.5kg



MB/Z980A Digital Remote Controlled Abdomen Palpation Manikin

Features:

1. Remote controlled teaching
2. Elective palpation positions and experience of different symptoms
3. Palpation: liver palpation, spleen palpation, gallbladder palpation and syntheses palpation, frequent disease tenderness and rebound tenderness



MB/Z960 Cardiopulmonary Auscultation Unit

MB/Z960 series can auscultate and identify hundreds of voice, including 5types. And each type includes single version and multiuser version; and the multiuser version is available for a group of 20 persons teaching;

Item No.	Description	Features
MB/Z960	Combined Cardiopulmonary Auscultation Unit	Including: normal and abnormal heart sound, breathing sound, bowel sound and vascular murmur; adult, child, infant and neonate, each has more than 20 species;
MB/Z960N	Neonatal Cardiopulmonary Auscultation Unit	36 kinds of neonatal normal and abnormal heart sound, breathing sound, bowel sound and vascular sound;
MB/Z960I	Infant Cardiopulmonary Auscultation Unit	141 kinds of infant normal and abnormal heart sound, breathing sound, bowel sound and vascular sound;
MB/Z960C	Child Cardiopulmonary Auscultation Unit	152 kinds of child normal and abnormal heart sound, breathing sound, bowel sound and vascular sound;
MB/Z960A	Adult Cardiopulmonary Auscultation Unit	110 kinds of adult normal and abnormal heart sound, breathing sound, bowel sound and vascular sound;

Configuration: Auscultation unit, auscultation distributor, 20pcs auscultator



MB/Z970+ Auscultation Manikin

Item No.	Description	Features	Standard components
MB/Z970+N	Neonatal Auscultation Manikin	Be able to auscultate and identify 36 of voices, including: normal and abnormal heart sound, breathing sound, bowel sound and vascular murmur;	Neonatal auscultation manikin, chest skin, auscultation control box
MB/Z970+I	Infant Auscultation Manikin	Be able to auscultate and identify 141 of voices, including: normal and abnormal heart sound, breathing sound, bowel sound and vascular murmur;	Infant auscultation manikin, chest skin, auscultation control box
MB/Z970+C	Child Auscultation Manikin	Be able to auscultate and identify 152 of voices, including: normal and abnormal heart sound, breathing sound, bowel sound and vascular murmur; Child: one year old and five year old	Child auscultation manikin, chest skin, auscultation control box



MB/Z980B Digital Remote Controlled Abdomen Auscultation, Palpation and Blood Pressure Measurement Manikin

The product is standalone version, with the computer consoles which is controlled by SCM, handlers can choose any palpation signs and experience corresponding signs tests to achieve the best results of teaching and training.

Function

1. All the teaching can be controlled by remote telecontrol.
2. Palpation: liver palpation, spleen palpation, gallbladder palpation and syntheses palpation, frequently disease tenderness and rebound tenderness
3. Auscultation: bowel sounds, vascular murmur of renal artery
4. A non-invasive blood pressure measurement is provided.



MB/ZXD1900 High Intelligent and Digital Network of ECG Simulated Teaching System

In medical education, the traditional teaching method can only obtain ECG from human body to let students read and analyze, and grouped students describe the normal electrocardiogram in ECG practice, for the abnormal ECG, students can only read and analyze the existing electrocardiogram information, this limits their studying range. Now our company develops the newest ECG manikin, which is on-site real operation of electrocardiograph, collecting all kinds of electrocardiogram, can be used for teaching, practice and assessment, greatly enhancing students' interest in study and improving teaching quality of skills training and assessment.

Features:

1. Basic theory teaching of ECG
2. Measuring and analysis of normal electrocardiogram
3. Common clinical ECG diagnosis, ECG characteristic, clinical analysis prompts
4. Various kinds of clinical real patients' ECG
5. All students teaching function: the teaching content in the teacher's computer can be sent to all the students' computer, teacher's computer can control all the students' computers and operate all the theoretical study and manikin operation;
6. Local area network teaching, friendly interface, interactive teaching, teaching counseling, with two modes of unity teaching and free study
7. Make ECG teaching much closer to clinical practice, greatly enhance students' interest in studying and significantly improve teaching effect



System Configuration:

Hardware: ECG manikin, electrocardio lead wire

Software: LAN application software of teacher computer V1.0

LAN application software of students' computer V1.0



MB/ZXD190 Advanced Multifold ECG Computer Manikin

Function

1. Made with high technology, flexible and elastic skin, with marks of the auscultatory site, anti-aging, anti-high temperature and low temperature, sturdiness and durability, adopting advanced makeup art technology to make the manikin beautiful and vivid as true person;
2. Controlled by micro-computer; a variety of normal and abnormal ECG signals are stored in the manikin; each ECG signal is showed by the analog-to-digital code.
3. Connect with the common ECG or ECG monitor when using, and connect the lead wire of the ECG machine to the relevant parts of limbs and chest respectively
4. For teaching practice and assessment, operate the code button on the manikin panel and input the ECG code according to your need, then ECG waveform will be automatically described via the ECG machine and monitor
5. Realistic waveform and adjustable heart rate

