Communication LAB ENG -107B

Summary Report.

UBT CE Communication Lab apparatus was purchase in year 2010, which is very basic communication experiments setup?
Already absolute, with supplier in Year 2016. Reported to UBT CE management. Case is still under study.
Port of origin is Taiwan.

1. It was not checked properly at the time of revival.
2. Oscilloscopes ISO-TECH IDS8062 60Mhz are equipped with sharing time base which cannot display input and output signals at a time? Provide alternate solution with Digital Meter Peak Tech 2010DMM.
3. Spectrum Analyzer Gwinster, (150KHz → 100000MHZ) is out of the frequency range of available modules experiments modules. Experiments are based on frequency range of 10HZ to 100KHZ.
4. Local power is dual phase 220V 60Hz. Which is spouse to be single phase 220V?
5. No power Earthing is available. Requested several times no action took place.

Recommendations.

1. Upgrade the communication LAB with covers the basic and advance communication setup experiments.
2. If same setup is advised to used. Listed below devices need to replace.
   A. Oscilloscopes 60 MHz with dual time base.
   B. Spectrum Analyzer, supporting frequency 10HZ to 100 KHz.
3. Single phase 220Volts is required at ENG 107B Lab.
4. Power Earthing is requested since long.
5. Multimedia Interactive screen is required.

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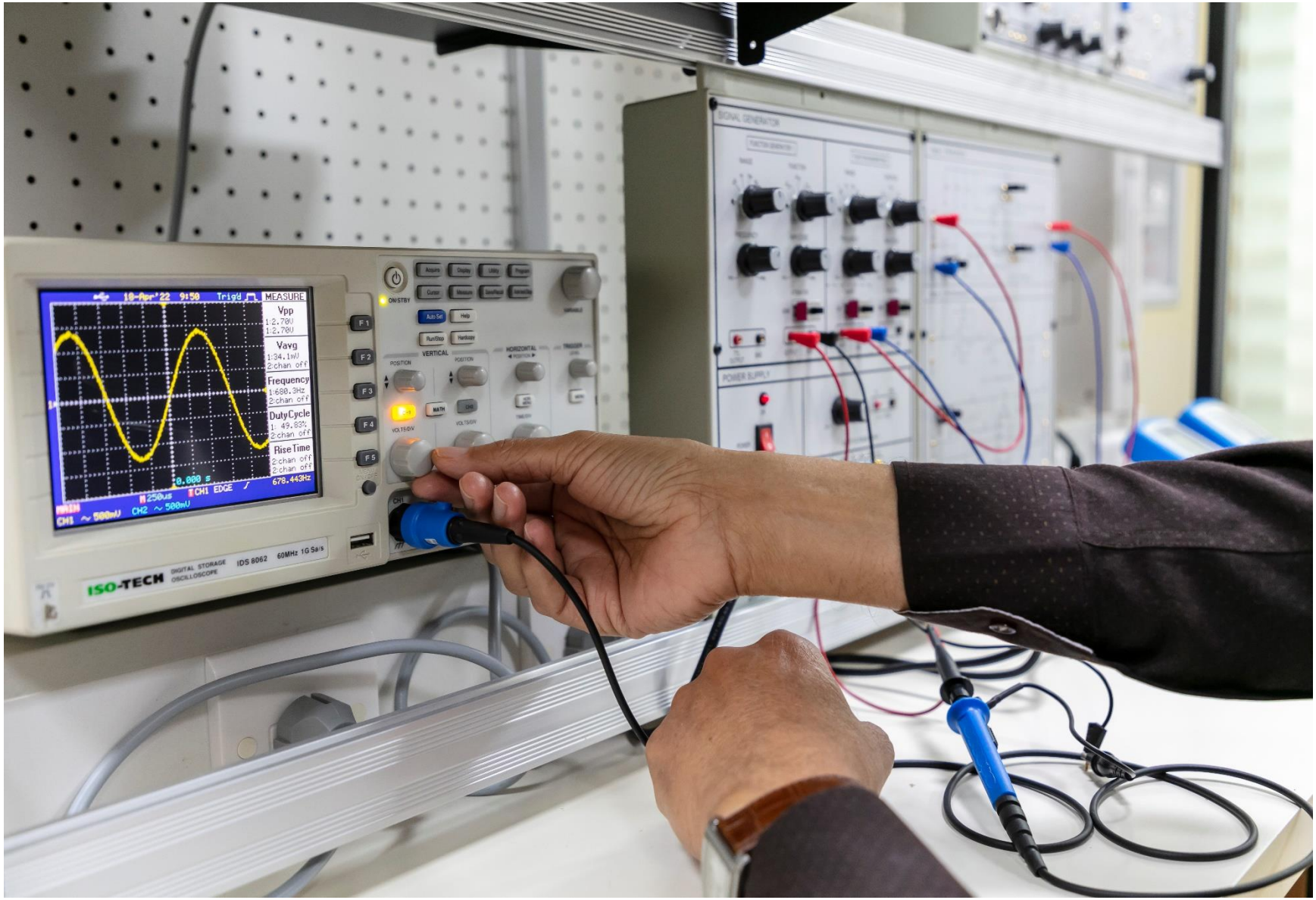
Communication LAB ENG -107B Experiments Setup Desk 04 Set. Prepared by Eng. Imtiaz Asim 10794.


TECHNOLOGY
THAT ENGINEERS
TOMORROWS WORLD


SIGNAL GENERATOR
POWER SUPPLY
Basic Communication Trainer

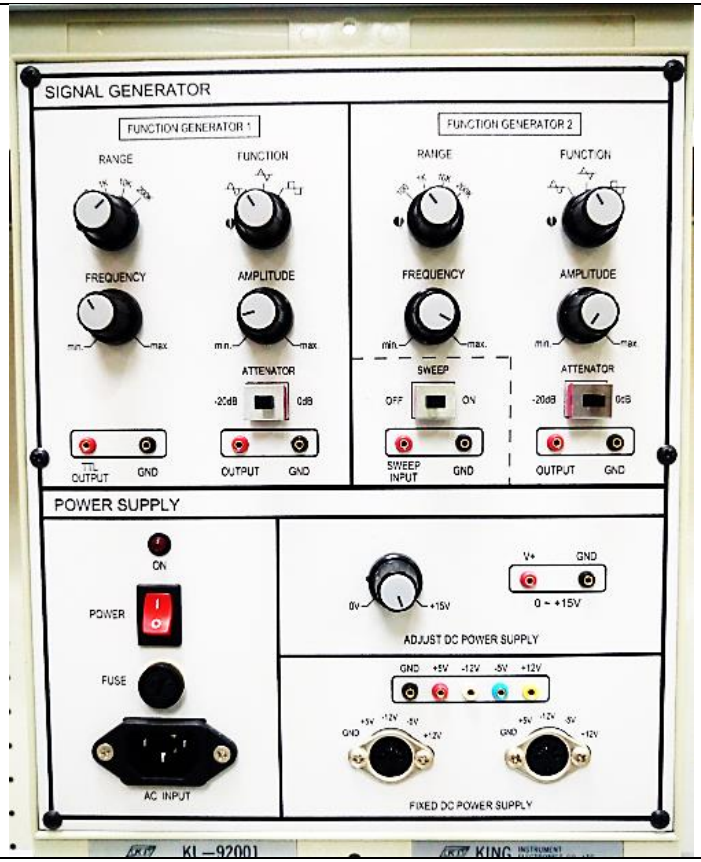
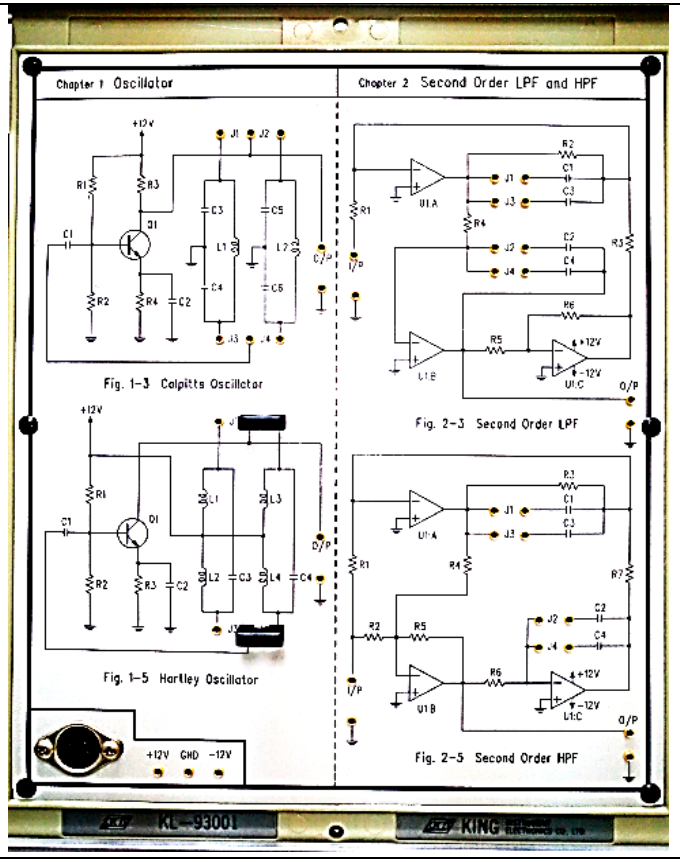

MEASURE
Vpp
1:2.70V
2:2.70V
Vavg
1:34.1mV
2:chan off
Frequency
1:680.3Hz
2:chan off
DutyCycle
1: 49.83%
2:chan off
RiseTime
2:chan off
2:chan off
ISO-TECH
DIGITAL STORAGE OSCILLOSCOPE
IDS 8062
60MHz 1GSa/s

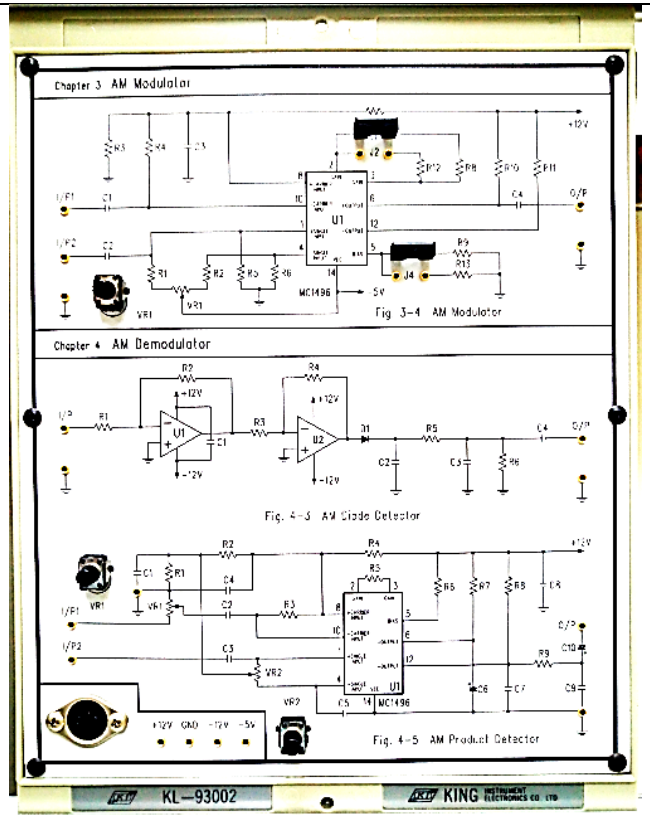
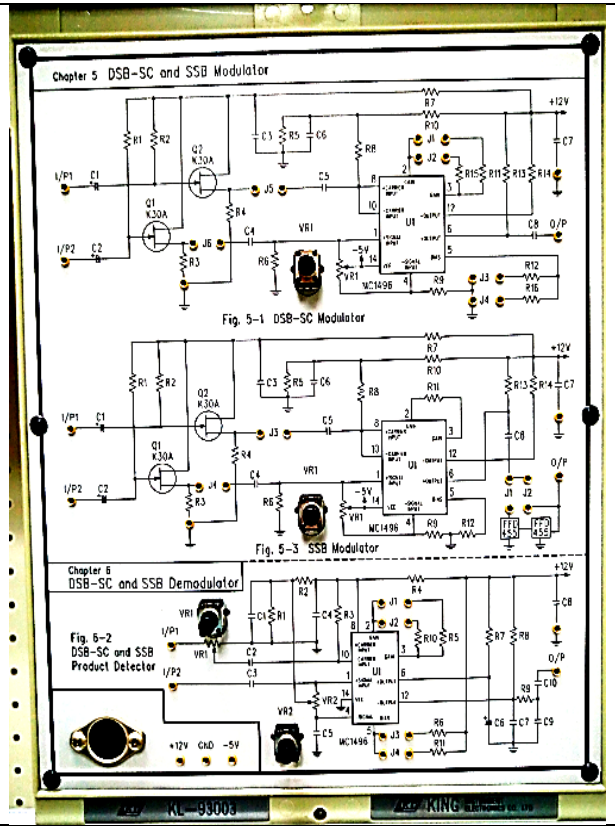
Experiments Modules of Communication LAB ENG -107B

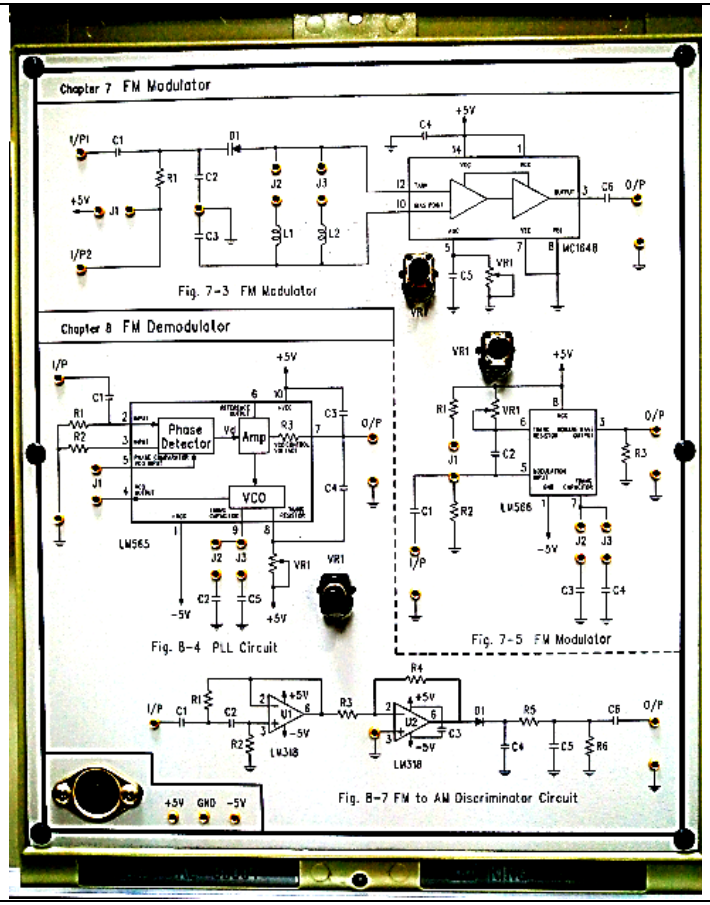
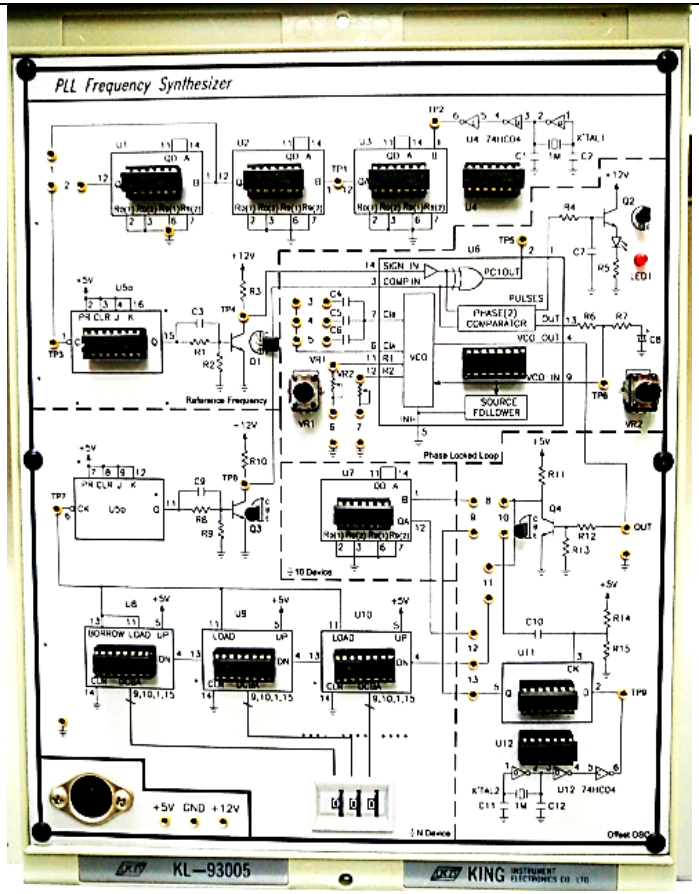
#	Item Description	Model	Old-Rec	New-Rec	Remarks
1	Oscilloscope,60MHZ (Digital Storage)	ISO-TECH IDS8062	Nil	03	Device
2	Oscilloscope,50MHZ (Digital Storage) Tektronix	TBS1052B	Nil	01	Device
3	Signal Generator 10MHZ	AFG3011C	Nil	01	Device
4	Spectrum Analyzer Gwinster, (150K→ 100000MHZ)	GSP-810	Nil	04	Device.
5	Digital Meter Peak Tech 2010DMM	Peak Tech 2010D	Nil	06	Digital Meter
6	Digital Meter Peak Tech 2005	Peak Tech 2005	Nil	02	Digital Meter
7	Signal Generator	KL92001	Nil	04	Experiment Module
8	Oscillator / Second Order LPF and HPF Module	KL93001	Nil	04	Experiment Module Chapter 01 / 02
9	A.M Modulator Module	KL93002	Nil	04	Experiment Module Chapter 03
10	DSB-SC and SSB Modulator Module	KL93003	Nil	04	Experiment Module Chapter 05
11	F.M Modulator Module	KL93004	Nil	04	Experiment Module Chapter 07
12	PLL Frequency Synthesizer Module	KL93005	Nil	04	Experiment Module
13	TDM & PAM-TDM Multiplexer / De-multiplexer Module	KL93006	Nil	04	Experiment Module
14	FDM Multiplexer / De-multiplexer Module	KL93007	Nil	04	Experiment Module

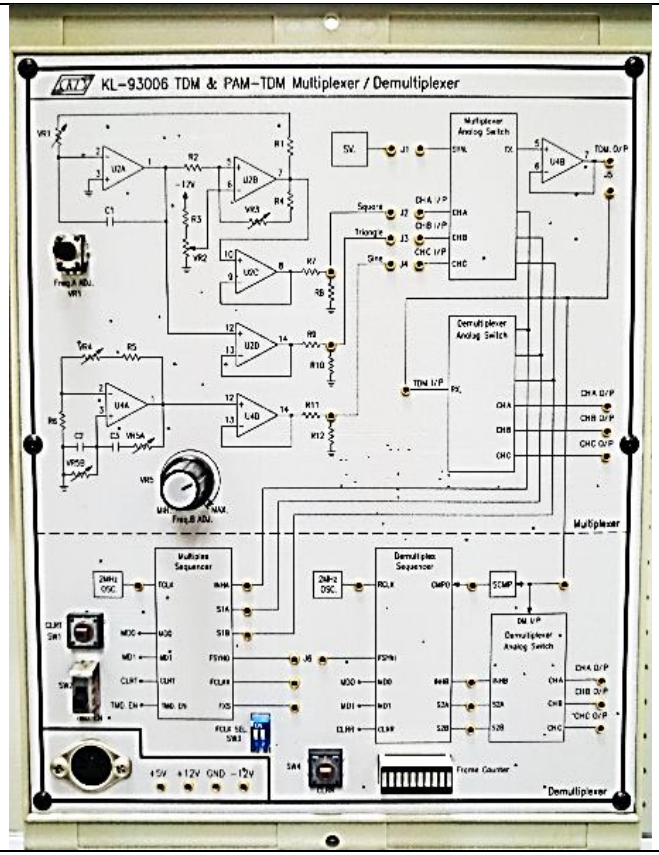
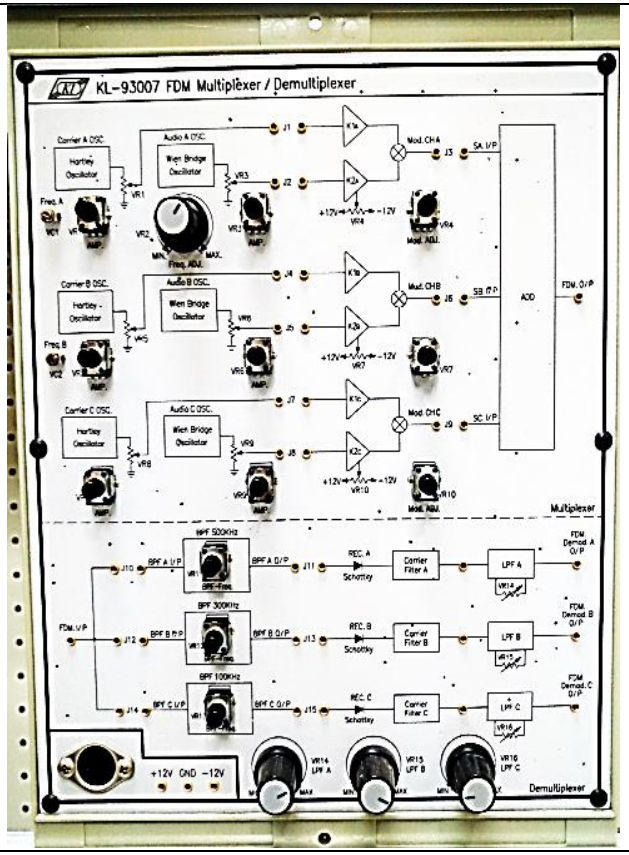
15	Signal Convertor /Recovery/ Regeneration	KL93008	Nil	04	Experiment Module
16	Analog to Digital Convertor Application Module	KL94001	Nil	04	Experiment Module Chapter 09
17	PWM Modulator Module	KL94002	Nil	04	Experiment Module Chapter 11
18	FSK Modulator Module	KL94003	Nil	04	Experiment Module Chapter 13
19	CVSD Modulator / Demodulator Code Encode / Decade LPF	KL94004	Nil	04	Experiment Module
20	ASK Modulator / Demodulator	KL94005	Nil	04	Experiment Module
21	PSK/QPSK Modulator Module	KL94006	Nil	04	Experiment Module
22	FDM Multiplexer /De-multiplexer	KL94007	Nil	04	Experiment Module
23	Communication Trainer Manual	K-900A	Nil	04	Experiment Module
	Checked by Eng. Imtiaz Ahmed 10794 Noted By:				Page 1of 1

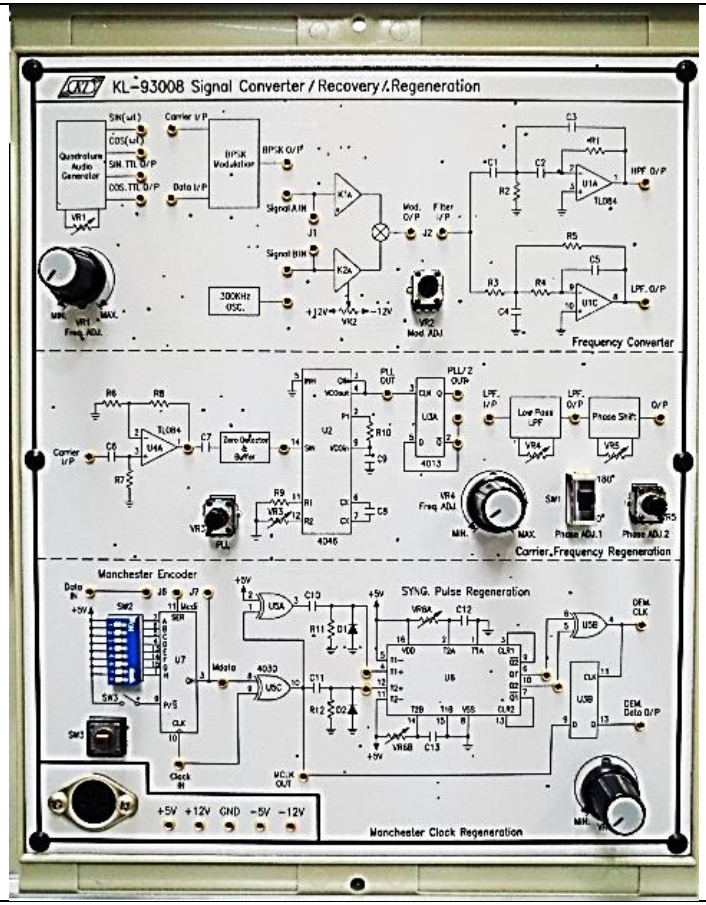
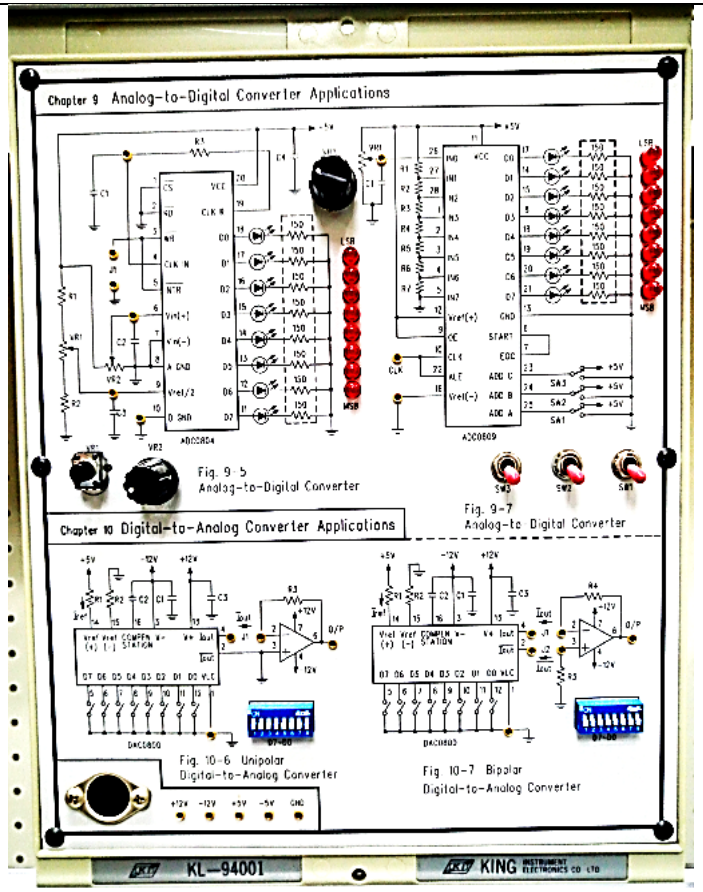
Communication Experiments Modules Details.

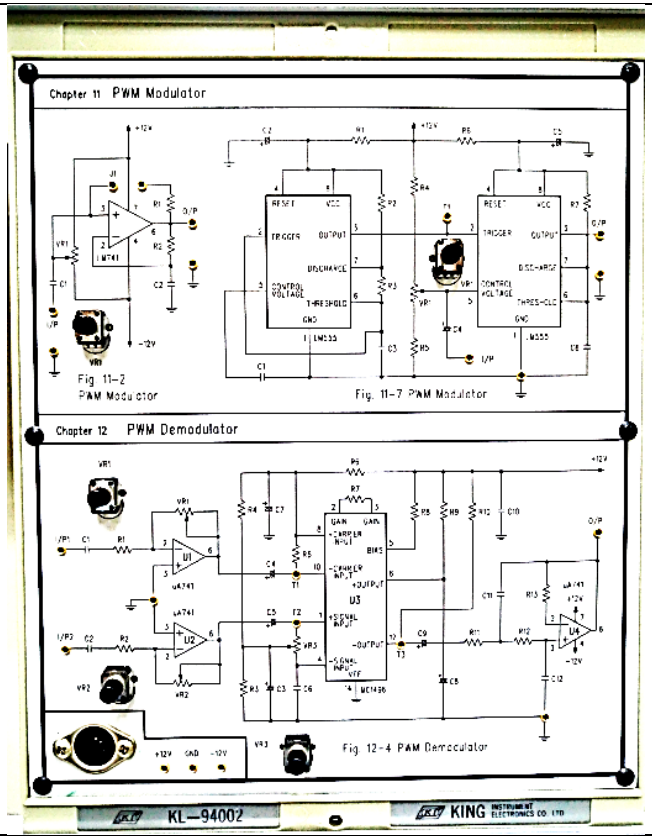
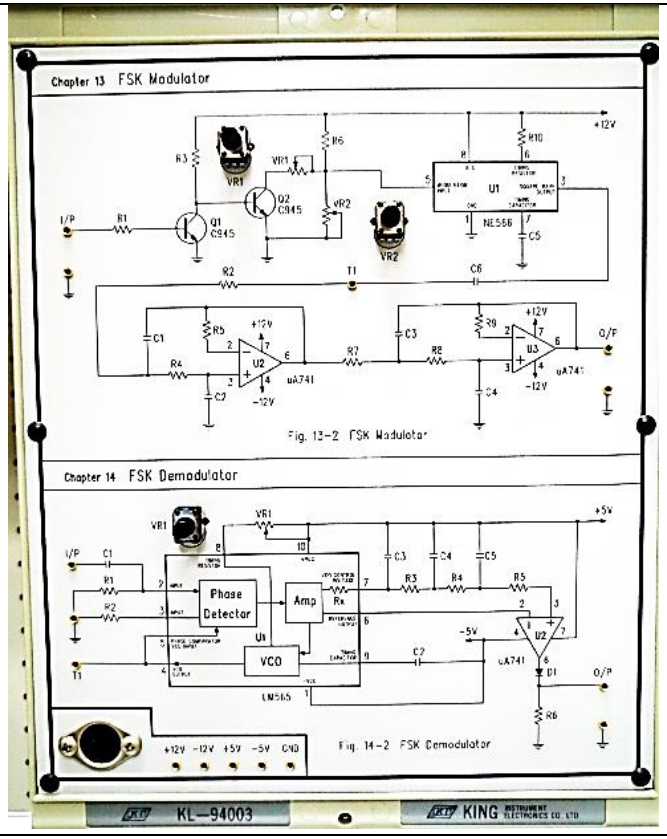
Power Supply + Signal Generator Module KL-92001	Oscillators. Module KL-93001
	
Power supply is used to provide the required bias voltage to operate the modules and to generate the signals that will be used as a carrier or an information signal	This is a LPF and HPF that could be used to allow the transmission of signals certain signals according to its center frequency and its BW.
يستخدم هذا الجهاز لانتاج فولت مستمر يستخدم في عملية الانحياز للجهاز وكذلك لانتاج الموجات المستخدمه كمعلومات يراد نقلها او كحامل للموجاتز	يستخدم هذا الجهاز كمنقى يسمح بمرور الترددات تحت قيم معينه او يسمح بمرور ترددات اكبر من قيمه معينه

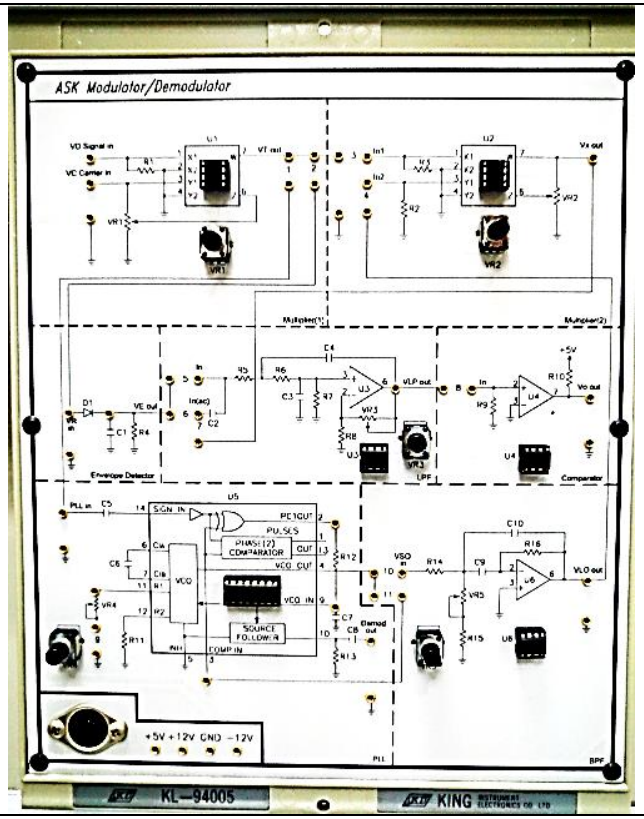
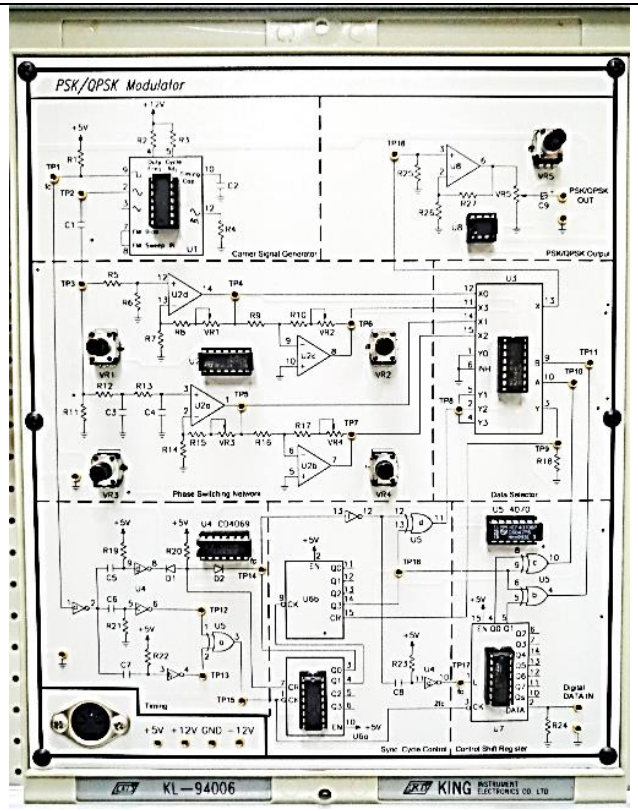
A.M Modulator Module KL-93002	DSB-SC and SSB Modulator Module KL-93003
	
This is used to amplitude modulate (AM) the carrier with the information signal generated used the signal generator. This is used to study the performance of the AM modulator and demodulator. The used type of modulation is DSBTC technique.	This module is used to modulate and demodulate a carrier using DSB-SC and SSB techniques.
يستخدم هذا الجهاز لدراسة عملية تعديل سعه حامل الموجات باستخدام الموجات التي تم انتاجها من مولد النبضات. و العمليه المستخدمه هي DSBTC.	يستخدم هذا الجهاز لدراسة عملية تعديل سعه حامل الموجات باستخدام الموجات التي تم انتاجها من مولد النبضات. و العمليه المستخدمه هي DSB-SC and SSB.

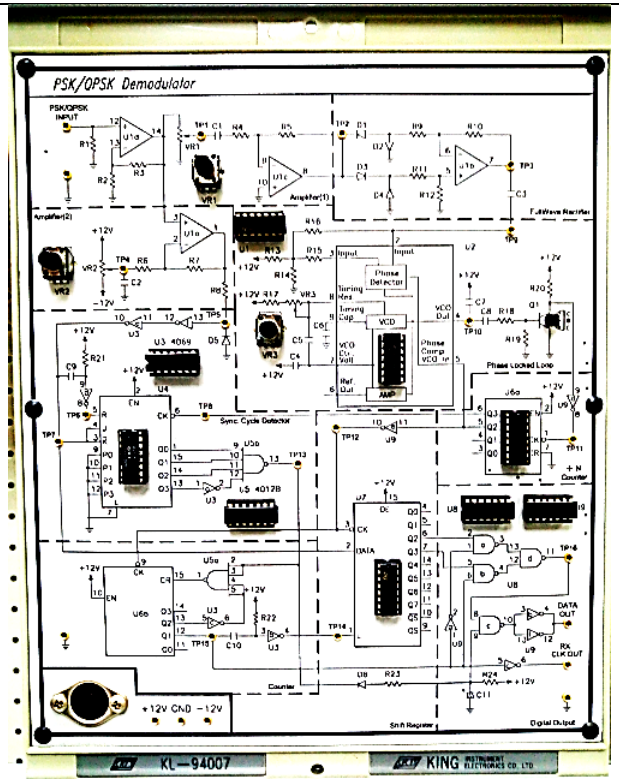
FM Modulator Module KL-93004	PLL Frequency Synthesizer Module KL-93005
	
This is used to frequency modulate (FM) the carrier with the information signal generated used the signal generator. This is used to study the performance of the FM modulator and demodulator.	This module is used to generate signals using phase locked loop method.
يستخدم هذا الجهاز لدراسة عملية تعديل تردد حامل الموجات باستخدام الموجات التي تم انتاجها من مولد النبضات.	يستخدم الجهاز لانتاج موجات بطريقه PLL

TDM & PAM-TDM Multiplexer / Demultiplexer. Module KL-93006	FDM Multiplexer / Demultiplexer Module KL-93007
	
This is used to study the digital modulation techniques. The module is used to study the performance of PAM-TDM. The time axis is divided between a group of digital signals and the effect of the pulse width on the performance of the demultiplexing process of the digital signal.	This is used to study the digital modulation techniques. The module is used to study the performance of FDM. The frequency is divided between a group of signals and it could be used to study the effect of the BW and center frequency in signal detection process.
يستخدم هذا الجهاز في دراسة تجميع مجموعه من الموجات الرقميه بحيث كل موجه تأخد فتره زمنيه محدده ودراسة تأثير ذلك علي عملية استقبال هذه الموجات مرة اخري	يستخدم لدراسة تجميع مجموعه من الموجات عن طريق تحديد نطاق تردد محدد لكل موجه ودراسة تأثير عرض النطاق المستخدم فى عمليه استقبال هذه الموجات مرة اخري

Signal Convertor / Recovery/Re generation Module KL-93008	Analog-to Digital Convertor Application Module KL-94001.
	
	This is used to study the process of converting the analog signal into a digital signal and vice versa.
	يستخدم هذا الجهاز لدراسة عمليه تحويل الإشارات التناظرية الي إشارات رقمية و العكس

PWM Modulator. Module KL-94002	FSK Modulator Module KL-94003.
	
This module is used to study one of the digital modulation techniques which is PWM where is the signal modulate the width of the digital pulse.	This module is used to study one of the digital modulation techniques which is PFM where is the signal modulate the frequency of the digital pulse.
يستخدم هذا الجهاز في دراسه عمليه تعديل عرض نبضات رقميه.	يستخدم هذا الجهاز في دراسه عمليه تعديل تردد نبضات رقميه

ASK Modulator / Demodulator. Module KL-94005	PSK/QPSK Modulator. Module KL-94006.
	
This module is used to study one of the digital modulation techniques which is ASK where is the signal modulate the amplitude of the digital pulse.	This module is used to study one of the digital modulation techniques which is PSK where is the signal modulate the phase of a carrier ether to be (0°, and 180°) or (45°, 135°, 225°, and 315°).
يستخدم هذا الجهاز في دراسه عمليه تعديل سعه نبضات رقميه.	يستخدم هذا الجهاز في دراسه عمليه تعديل زاويه طورحامل موجات باستخدام نبضات رقميه و يمكن دراسه نوعين من العديل حيث يتغير الطور بين (0°, and 180°) او (45°, 135°, 225°, and 315°)

ASK Modulator / Demodulator. Module KL-94007	Hardware link and Com Cables
	 
This module is used to study one of the digital modulation techniques which is ASK where is the signal modulate the amplitude of the digital pulse.	This cable are used in connect between the difference modules.
يستخدم هذا الجهاز في دراسه عمليه تعديل سعه نبضات رقميه.	تستخدم الكابلات في التوصيل بين الاجهزه الموجوده في هذا المعمل