



ELECTRONIC TEST & MEASURING INSTRUMENTS EDUCATIONAL TRAINERS

- ❖ COMMUNICATION ENGINEERING
- ❖ FIBRE OPTICS
- ❖ POWER & INDUSTRIAL ELECTRONICS
- ❖ CONTROL ENGINEERING
- ❖ DIGITAL ELECTRONICS
- ❖ POWER SUPPLIES
- ❖ OPERATIONAL AMPLIFIERS
- ❖ SIGNAL GENERATORS & COUNTERS
- ❖ GENERAL PURPOSE DEVELOPMENT SYSTEMS
- ❖ DIGITAL MULTI METERS & PANEL METERS
- ❖ ANALOG / DIGITAL OSCILLOSCOPES
- ❖ MICROWAVE COMPONENTS & EQUIPMENTS
- ❖ SPECTRUM ANALYSERS
- ❖ INSTRUMENTATION LAB EQUIPMENTS

❖ MICRO PROCESSORS ❖ MICRO CONTROLLERS ❖ PLC's ❖ DSP's
❖ SMART CARD / EMBEDDED / BIOMETRIC APPLICATIONS



In Service of Industry and Education

Introduction..

FUTURE TECH Instruments Pvt Ltd. is a leading manufacturer in Asia catering to the needs of Educational sector under the Brand name '**FUTURE TECH**'

FUTURE TECH produces most advanced in a wide range of products in Digital Electronics, Operational Amplifiers, General Purpose Development Systems, Power & Industrial Electronics, Communication Engineering, Fiber Optic Trainers, Instrumentation Trainers, Control Systems Trainers. The range as of this year exceed (500) products adding (50) products every year.

In addition to the Educational Trainers, FUTURE TECH manufacturers Power supplies, Function Generators, Decade Resistance/Inductance/Capacitance Boxes, Digital Multi meters and Panel Meters.

FUTURE TECH trading division represents and distributes leading National and International Brands which are offered to various Industries, Corporates and Educational Institutions.

FUTURE TECH has turned into a "**ONE STOP SOURCE**" for all the Technical Universities all over the country as well the ASIAN region. The reason why these institutions turn to us year after year is our unparalleled after sales SERVICE.

FUTURE TECH has the state of the art production facilities. Our R&D team develops and adds newer quality products which surpasses all the quality benchmarks.

FUTURE TECH Product list

FT 1400 SERIES - POWER & INDUSTRIAL ELECTRONICS TRAINERS



POWER & INDUSTRIAL ELECTRONICS TRAINERS SUITABLE FOR CONDUCTING EXPERIMENTS WITH DIAC, TRIAC, SCR, LDR, MOSFET, IGBT, OPTO ISOLATOR, UJT/555 TRIGGERING, AC/DC MOTOR CONTROLS, AC PHASE CONTROL CIRCUITS etc., 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

POWER & INDUSTRIAL ELECTRONICS TRAINERS

- FT 1401 INDUSTRIAL POWER ELECTRONICS TRAINER
- FT 1402 POWER ELECTRONICS TRAINER WITH METERS
- FT 1403 COMMUTATION CIRCUITS TRAINER: 5 TYPES
- FT 1404 AC PHASE CONTROL CIRCUITS: 4 TYPES
- FT 1405 INVERTER USING SCR
- FT 1406 CHOPPER CIRCUITS (JONES & MORGONS CHOPPER)
- FT 1407 TIME DELAY CIRCUIT USING UJT & SCR
- FT 1408 SCR TURN ON METHODS
- FT 1409 SPEED CONTROL OF DC MOTOR USING SCR (OPEN LOOP & CLOSED LOOP)
- FT 1410 FAN REGULATOR & LAMP DIMMER USING DIAC & TRIAC / SCR
- FT 1411 SCR CONTROL FOR DC & AC LOADS

POWER DEVICE CHARACTERISTICS TRAINERS

- FT 1421 SCR CHARACTERISTICS
- FT 1422 DIAC CHARACTERISTICS
- FT 1423 TRIAC CHARACTERISTICS
- FT 1424 UJT CHARACTERISTICS & UJT RELAXATION OSCILLATOR
- FT 1425 MOSFET CHARACTERISTICS
- FT 1426 IGBT CHARACTERISTICS
- FT 1427 POWER DEVICE CHARACTERISTICS DISPLAY TRAINER

ADVANCED POWER & INDUSTRIAL ELECTRONICS TRAINERS

- FT 1451 STUDY OF AC PHASE CONTROL USING SCR
- FT 1452 SINGLE PHASE HALF & FULL BRIDGE CONVERTER FOR R L C LOADS

- FT 1453 SINGLE PHASE CYCLO CONVERTER
- FT 1454 THREE PHASE HALF & FULL CONTROLLED BRIDGE CONVERTER WITH R & RL LOADS
- FT 1455 STUDY OF FORCED COMMUTATION OF SCR (CLASS A, B, C, D, E) & JONES CHOPPER
- FT 1456 STUDY OF SCR PARALLEL INVERTER WITH R & RL LOADS
- FT 1457 STUDY OF SCR SERIES INVERTER WITH R & RL LOADS
- FT 1458 STUDY OF SINGLE PHASE AC VOLTAGE CONTROLLER WITH R & RL LOADS

FT 1500 SERIES - COMMUNICATION ENGINEERING TRAINERS



COMMUNICATION GROUP OF TRAINERS FOR COMPLETE RANGE OF EXPERIMENTS LIKE AM, FM, PCM, DPCM, PAM, PPM, PWM, DM, ADM, FSK, PSK, DPSK AND TDM. INCLUDE BUILT-IN-POWER SUPPLIES, CARRIER AND MODULATING SIGNALS AND TEST POINTS etc., 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

BASIC COMMUNICATION TRAINERS

- FT 1501 AMPLITUDE MODULATION & DEMODULATION TRAINER
- FT 1502 FREQUENCY MODULATION & DEMODULATION TRAINER
- FT 1503 PULSE AMPLITUDE MODULATION & DEMODULATION TRAINER
- FT 1504 PULSE WIDTH MODULATION & DEMODULATION TRAINER
- FT 1505 PULSE POSITION MODULATION & DEMODULATION TRAINER
- FT 1506 FREQUENCY SHIFT KEYING MODULATION AND DEMODULATION TRAINER
- FT 1507 PHASE SHIFT KEYING MODULATION & DEMODULATION TRAINER
- FT 1508 DIFFERENTIAL PHASE SHIFT KEYING MODULATION AND DEMODULATION TRAINER
- FT 1509 PULSE CODE MODULATION & DEMODULATION TRAINER
- FT 1510 DIFFERENTIAL PULSE CODE MODULATION AND DEMODULATION TRAINER
- FT 1511 DELTA MODULATION & DEMODULATION TRAINER
- FT 1512 DIGITAL TIME DIVISION MULTIPLEXING & DEMULTIPLEXING TRAINER

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FT 1513	ANALOG SIGNAL SAMPLING GATES (CMOS)
FT 1514	DSB BALANCED MODULATOR AND SYNCHRONOUS DETECTOR
FT 1515	MIXER CHARACTERISTICS
FT 1516	PRE-EMPHASIS & DE-EMPHASIS
FT 1517	DIGITAL PHASE DETECTOR
FT 1518	DIODE DETECTOR CHARACTERISTICS
FT 1519	SQUELCH TRAINER FOR FM DEMODULATOR

ADVANCED COMMUNICATION TRAINERS

FT 1551	ANALOG SIGNAL SAMPLING & RECONSTRUCTION TRAINER.
FT 1552	PULSE AMPLITUDE MODULATION & DEMODULATION TRAINER
FT 1553	PULSE WIDTH MODULATION & DEMODULATION TRAINER
FT 1554	PULSE POSITION MODULATION & DEMODULATION TRAINER
FT 1555	PULSE CODE MODULATION & DEMODULATION TRAINER
FT 1556	FREQUENCY SHIFT KEYING MODULATION AND DEMODULATION TRAINER
FT 1557	ANALOG TIME DIVISION MULTIPLEXING AND DEMULTIPLEXING TRAINER
FT 1558	AMPLITUDE SHIFT KEYING MODULATION AND DEMODULATION TRAINER
FT 1559	SSB MODULATOR (PHASE SHIFT METHOD) AND DEMODULATOR (SYNCHRONOUS DETECTOR) TRAINER
FT 1560	QUADRI PHASE SHIFT KEYING MODULATION & DEMODULATION TRAINER (QPSK)
FT 1561	CHANNEL ENCODING AND DECODING TRAINER
FT 1562	ADAPTIVE DELTA MODULATION & DEMODULATION TRAINER

FT 2100 SERIES - FIBRE OPTIC TRAINERS



BASIC & ADVANCED VERSION OF FIBRE OPTIC, ANALOG & DIGITAL TRANSMISSION TRAINERS USING 660 nm, 860 nm IR LEDs, LASER DIODE INTENSITY MODULATION TRAINERS ARE AVAILABLE IN THIS SERIES. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

FT 2101	BASIC SIMPLEX ANALOG FIBRE OPTIC TRAINER
FT 2102	BASIC SIMPLEX DIGITAL FIBRE OPTIC TRAINER
FT 2103	BASIC DUPLEX FIBRE OPTIC ANALOG TRAINER
FT 2104	BASIC DUPLEX FIBRE OPTIC DIGITAL TRAINER
FT 2105	DESIGN OF FIBRE OPTIC ADVANCED ANALOG TRANSMISSION TRAINER
FT 2106	DESIGN OF FIBRE OPTIC ADVANCED DIGITAL TRANSMISSION TRAINER(MICRO CONTROLLER BASED)
FT 2107	LASER DIODE INTENSITY MODULATION TRAINER
FT 2108	BASIC FIBRE OPTIC TRAINER FOR NUMERICAL APERTURE AND LOSS MEASUREMENTS

FT 2300 SERIES - CONTROL SYSTEM TRAINERS



CONTROL SYSTEM TRAINERS CONSISTS OF DC MOTOR STUDY, DC MOTOR SPEED CONTROL (OPEN LOOP / CLOSE LOOP), PID CONTROLLERS WITH INDEPENDENT SETTING OF P, I, D CONSTANTS, 1ST, 2ND & 3RD ORDER SYSTEM SIMULATORS, COMPENSATION DESIGNS etc.. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

FT 2301	LINEAR SYSTEM SIMULATOR
FT 2302	PID CONTROLLER
FT 2303	COMPENSATION DESIGN
FT 2304	TEMPERATURE CONTROL SYSTEM
FT 2321	DC MOTOR STUDY
FT 2322	AC POSITION CONTROL SYSTEM
FT 2323	SPEED CONTROL OF DC MOTOR

FT 2350 SERIES - PROGRAMMABLE LOGIC CONTROL (PLC) TRAINERS



PROGRAMMABLE LOGIC CONTROL (PLC) TRAINERS ARE BUILT AROUND AN INDUSTRIAL ALLEN BRADLY PICO CONTROLLER / DELTA PLC WHICH CAN PERFORM LOGIC, TIMING, COUNTING AND REAL TIME CLOCK OPERATIONS. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

PROGRAMMABLE LOGIC CONTROL (PLC) TRAINERS

FT 2350	PROGRAMMABLE LOGIC CONTROL (PLC) TRAINER
FT 2351	ADVANCED PROGRAMMABLE LOGIC CONTROL (PLC) TRAINER

FT 2500 SERIES - FIXED & VARIABLE POWER SUPPLIES



STANDARD BENCH TOP REGULATED AND VARIABLE POWER SUPPLIES IN SINGLE / DUAL CHANNEL WITH ANALOG / DIGITAL METERS, FIXED, SINGLE / MULTIPLE VOLTAGE POWER SUPPLIES ARE AVAILABLE.

FT 2501	SINGLE 0-30 V/1AMP RPS - ANALOG METERS
FT 2501D	SINGLE 0-30V/1 AMP RPS - DIGITAL METERS
FT 2502	SINGLE 0-30V/2 AMP RPS - ANALOG METERS
FT 2502D	SINGLE 0-30V/2 AMP RPS - DIGITAL METERS
FT 2503	DUAL 0-30V/1 AMP RPS - ANALOG METERS
FT 2504	DUAL 0-30V/2 AMP RPS - ANALOG METERS
FT 2504D	DUAL 0-30V/2 AMP RPS - DIGITAL METERS

BATTERY ELIMINATORS

FT 2531	0-12 V/500 mA IN STEPS OF 2 V
FT 2532	0-12 V/2A IN STEPS OF 2 V

FIXED POWER SUPPLIES WITH SHORT CIRCUIT PROTECTION

FT 2551	+5 V/500 mA
FT 2552	+5 V/1 Amp
FT 2553	+5 V/1.5 Amp
FT 2554	+5 V/2 Amp
FT 2555	+/- 5 V/1 Amp
FT 2556	+/- 12 V/500 mA
FT 2557	+/- 12 V/1 Amp
FT 2558	+/- 15 V/500 mA
FT 2559	+/- 15 V/1 Amp
FT 2560	+/- 5 V/1 Amp, +/- 12 or 15 V/500 mA
FT 2561	+5 V/1.5 Amp, +/- 12 V/250 mA, +24 V/100 mA
FT 2562	+5 V/1.5 Amp, +/- 12 V/250mA, +21 V/100mA, +24 V/100mA

FT 2600 SERIES - SIGNAL SOURCES



SIGNAL SOURCES INCLUDES TEST INSTRUMENTS LIKE FUNCTION / SIGNAL/ PULSE GENERATORS IN DIFFERENT FREQUENCY RANGES. USER MANUAL IS PROVIDED ALONG WITH EACH EQUIPMENT

FT 2601	FUNCTION GENERATOR 100 kHz
FT 2602	FUNCTION GENERATOR 1MHz
FT 2603	FUNCTION GENERATOR 1MHz WITH DIGITAL FREQUENCY COUNTER

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FT 1000 SERIES - DIGITAL ELECTRONICS



DIGITAL TRAINERS PROVIDES ALL EXPERIMENT FUNCTIONS ON GATES, FLIP - FLOPS, COUNTERS, SHIFT REGISTERS. BUILT IN POWER SOURCE, DATA SWITCHES, CLOCKS, PULSERS, STATUS INDICATORS & DISPLAYS etc., ARE PROVIDED AS STANDARD FEATURES WHERE EVER REQUIRED. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

FT 1001	DIGITAL IC TRAINER - FULL SYSTEM GATES, FLIP FLOPS & COUNTERS
FT 1002	DIGITAL IC TRAINER - SHIFT REGISTERS & COUNTERS
FT 1003	DIGITAL IC TRAINER - FLIP FLOPS
FT 1004	DIGITAL IC TRAINER - GATES
FT 1005	DIGITAL IC TRAINER - BASES
FT 1006	DIGITAL IC TRAINER - ZIF SOCKETS
FT 1007	GENERAL PURPOSE ELECTRONIC TRAINER - B12
FT 1008	GENERAL PURPOSE ELECTRONIC TRAINER - B15
FT 1009	DIGITAL IC TRAINER KIT
FT 1010	DIGITAL & ANALOG IC TRAINER FOR TTL, CMOS AND ANALOG EXPERIMENTS
FT 1011	GENERAL PURPOSE DIGITAL IC TRAINER
FT 1012	DIGITAL IC TRAINER WITH APPLICATION MODULES

FT 1100 SERIES - BASIC DIGITAL ELECTRONICS



ALL DIGITAL GATES, COUNTERS, SHIFT REGISTERS AND OTHER FUNCTIONS ARE AVAILABLE AS INDIVIDUAL TRAINING KITS BUILT-IN POWER SOURCE, CLOCKS, PULSERS, DATA SWITCHES, STATUS INDICATORS, DISPLAYS etc., ARE PROVIDED AS STANDARD FEATURES WHEREVER REQUIRED. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

LOGIC GATES

FT 1101	BASIC LOGIC GATES USING TTL LOGIC
FT 1102	PROGRAMMABLE 'EX-OR' AND 'EX-NOR' GATES
FT 1103	VERIFICATION OF DE' MORGAN'S THEOREMS
FT 1104	HALF & FULL ADDER & SUBTRACTOR
FT 1105	4-BIT BINARY FULL ADDER & SUBTRACTOR
FT 1106	TRANSISTOR AS A SWITCH

FLIP FLOPS

FT 1110	RS, D, T & JK FLIP - FLOPS
FT 1111	MASTER SLAVE JK FLIP - FLOP USING GATES
FT 1112	JK FLIP FLOPS

SHIFT REGISTERS

FT 1120	SHIFT REGISTERS SISO, SIPO, PISO, PIPO
FT 1121	SHIFT REGISTERS SIPO, UNIVERSAL
FT 1122	UNIVERSAL SHIFT REGISTERS (74194)
FT 1123	UNIVERSAL SHIFT REGISTERS (7496,74195 / 196)

FT 1124	TRISTATE BUFFER & BUSSING TECHNIQUES
FT 1125	DATA TRANSFER IN BUS CONNECTED REGISTERS
FT 1126	4-BIT L/R SHIFT REGISTERS 7495

COUNTERS

FT 1130	4-BIT SYNCHRONOUS BINARY COUNTER
FT 1131	4-BIT BINARY RIPPLE COUNTER
FT 1132	MODULO-N-COUNTER
FT 1133	4-BIT DECADE COUNTER
FT 1134	DECADE FREQUENCY SCALAR
FT 1135	4-BIT UP/DOWN COUNTER (SINGLE CLOCK)
FT 1136	4-BIT UP/DOWN COUNTER (SEPARATE CLOCKS)
FT 1137	8-BIT UP/DOWN COUNTER (RIPPLE CLOCK)
FT 1138	4-BIT RING COUNTER
FT 1139	3 DIGIT DECADE COUNTER (3 x 7490)

DIGITAL IC TRAINERS (GENERAL)

FT 1150	TTL-CMOS-TTL INTERFACE
FT 1151	4-BIT MAGNITUDE COMPARATOR
FT 1152	4-BIT X 4-BIT BINARY MULTIPLIER
FT 1153	4-BIT ARITHMETIC LOGIC UNIT
FT 1154	READ ONLY MEMORY (ROM)
FT 1155	RANDOM ACCESS MEMORY (RAM)

ENCODERS / DECODERS

FT 1160	8-BIT EVEN/ODD PARITY GENERATOR
FT 1161	DECIMAL TO BCD ENCODER
FT 1162	BCD TO HEX DECODER
FT 1163	DECIMAL TO BINARY ENCODER
FT 1164	BINARY TO DECIMAL DECODER
FT 1165	BCD TO 7-SEGMENT DECODER
FT 1166	4-BIT BINARY TO GRAY & GRAY TO BINARY CONVERTER

MULTIPLEXERS / DEMULTIPLEXERS (MUX / DMUX)

FT 1170	8-LINE TO 1-LINE MULTIPLEXER & DEMULTIPLEXER
FT 1171	16-LINE TO 1-LINE MULTIPLEXER & DEMULTIPLEXER

ANALOG TO DIGITAL CONVERTERS (ADCs)

FT 1180	8-BIT ADC (2 METHODS)
FT 1181	8-BIT ADC (SUCCESSIVE APPROXIMATION METHOD)
FT 1182	8-BIT ADC (COUNTER COMPARATOR METHOD)
FT 1183	4-BIT ADC (COUNTER COMPARATOR METHOD)

DIGITAL TO ANALOG CONVERTERS (DACs)

FT 1190	8-BIT DAC (2 METHODS)
FT 1191	8-BIT DAC (R-2R NETWORK METHOD)
FT 1192	4-BIT DAC (R-2R NETWORK METHOD)
FT 1193	8-BIT DAC (BINARY WEIGHTED NETWORK METHOD)
FT 1194	4-BIT DAC (BINARY WEIGHTED NETWORK METHOD)

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FT 1200 SERIES - OPERATIONAL AMPLIFIERS



LINEAR IC TRAINERS INCLUDES ALL REQUIRED ICs AND COMPONENTS FOR ANALOG EXPERIMENTS WITH BUILT IN DUAL DC POWER SOURCES. 741, 723, 710, 555, 565 ICs, BANKS OF CAPACITORS, RESISTORS, TRANSISTORS, DIODES / ZENERS AND POTENTIOMETERS ARE PROVIDED AS STANDARD FEATURES WHERE EVER REQUIRED. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

LINEAR IC TRAINERS (GENERAL PURPOSE)

FT 1201	LINEAR IC TRAINER - DISCRETE VERSION
FT 1202	LINEAR IC TRAINER - DISCRETE ECONOMY VERSION
FT 1203	LINEAR IC TRAINER - DISCRETE VERSION & ZIF SOCKETS
FT 1204	LINEAR IC TRAINER - DISCRETE VERSION & ADVANCE
FT 1205	LINEAR IC TRAINER - ZIF SOCKETS & METERS

OP AMP TRAINERS

FT 1210	OP AMP TIMER TRAINER
FT 1211	OP AMP CHARACTERISTICS
FT 1212	OP AMP APPLICATIONS TRAINER
FT 1213	OP AMP SUMMER
FT 1214	OP AMP DIFFERENTIATOR
FT 1215	OP AMP INTEGRATOR
FT 1216	OP AMP SUBTRACTOR
FT 1217	OP AMP VOLTAGE FOLLOWER
FT 1218	OP AMP NON-INVERTING AMPLIFIER
FT 1219	OP AMP INVERTING AMPLIFIER
FT 1220	OP AMP DIFFERENTIAL AMPLIFIER
FT 1221	OP AMP V TO I & I TO V CONVERTER
FT 1222	OP AMP V TO F & F TO V CONVERTER
FT 1223	OP AMP VOLTAGE REGULATOR
FT 1224	OP AMP BRIDGE RECTIFIER
FT 1225	OP AMP ENVELOPE DETECTOR AND WINDOW COMPARATOR
FT 1226	OP AMP CONSTANT CURRENT SOURCE
FT 1227	OP AMP ADJUSTABLE PHASE SHIFTER
FT 1228	OP AMP ACTIVE FILTERS
FT 1229	OP AMP ACTIVE LOW PASS FILTER
FT 1230	OP AMP ACTIVE HIGH PASS FILTER
FT 1231	OP AMP ACTIVE BAND PASS FILTER
FT 1232	OP AMP ACTIVE BAND STOP FILTER
FT 1233	OP AMP SCHMITT TRIGGER
FT 1234	OP AMP WIEN BRIDGE OSCILLATOR
FT 1235	OP AMP COMPARATOR
FT 1236	OP AMP AUDIO AMPLIFIER
FT 1237	OP AMP PEAK DETECTOR
FT 1238	OP AMP PRECISION HALF & FULL WAVE RECTIFIER
FT 1239	OP AMP LOG & ANTILOG AMPLIFIER
FT 1240	OP AMP INSTRUMENTATION AMPLIFIER
FT 1241	OP AMP SQUARE WAVE GENERATOR
FT 1242	OP AMP TRIANGULAR WAVE GENERATOR
FT 1243	OP AMP SAW TOOTH WAVE GENERATOR
FT 1244	OP AMP PULSE GENERATOR
FT 1245	OP AMP SINE & COSINE GENERATOR

FT 1246	OP AMP STAIRCASE GENERATOR
FT 1247	OP AMP CURRENT FOLLOWER
FT 1248	OP AMP PHASE SHIFT OSCILLATOR
FT 1249	OP AMP ADC & DAC
FT 1250	OP AMP AS NOTCH FILTER
FT 1251	OP AMP HARTLEY OSCILLATOR
FT 1252	OP AMP COLPITTS OSCILLATOR

PLL'S & VCO'S

FT 1281	PHASE LOCKED LOOP
FT 1282	PLL FREQUENCY MULTIPLIER & SYNTHESIZER
FT 1283	VOLTAGE CONTROLLED OSCILLATOR USING 565
FT 1284	VOLTAGE CONTROLLED OSCILLATOR USING 566
FT 1285	DIGITAL FREQUENCY SYNTHESIZER

FT 1300 SERIES - GENERAL PURPOSE DEVELOPMENT SYSTEMS



GENERAL PURPOSE TRAINERS ARE USEFUL FOR EXPERIMENTS ON DIGITAL AS WELL AS ANALOG CIRCUITS. INCLUDE TWO SOLDER LESS BREAD BOARDS, BUILT IN DC POWER SUPPLIES, +5V, +/-15V, CLOCKS, PULSER, TEN I/P DATA SWITCHES WITH INDICATORS, TEN O/P STATUS INDICATORS, 7 SEGMENT LED WITH DECODER DRIVER ARE PROVIDED AS STANDARD FEATURES WHERE EVER REQUIRED. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

FT 1301	BREAD BOARD TRAINER
FT 1302	GENERAL PURPOSE DIGITAL TRAINER
FT 1303	GENERAL PURPOSE ELECTRONICS TRAINER-B12
FT 1304	GENERAL PURPOSE ELECTRONICS TRAINER-B15
FT 1305	COMPONENT DEVELOPMENT SYSTEM FG 100 KHz
FT 1306	COMPONENT DEVELOPMENT SYSTEM FG 1 MHz
FT 1307	GENERAL PURPOSE TRAINER - BREAD BOARD
FT 1308	GENERAL PURPOSE ANALOG/DIGITAL TRAINER
FT 1309	CMOS/TTL DIGITAL GENERAL PURPOSE TRAINER
FT 1310	ANALOG BREAD BOARD TRAINER WITH FUNCTION GENERATOR
FT 1312	GENERAL PURPOSE BREAD BOARD TRAINER
FT 1311	ANALOG BREAD BOARD TRAINER WITH SINE WAVE GENERATOR

DECADE RESISTANCE BOXES 1 WATT (DRB1W)

FT 1321	1 Ohm to 100 K Ohms in 5 DECADES,1W
FT 1322	10 Ohm to 1M Ohms in 5 DECADES,1W
FT 1323	1 Ohm to 1M Ohms in 6 DECADES,1W

DECADE RESISTANCE BOXES 5 WATT (DRB5W)

FT 1331	1 Ohm to 100 K Ohms in 5 DECADES,5W
FT 1332	10 Ohm to 1 M Ohms in 5 DECADES,5W
FT 1333	1 Ohm to 1 M Ohms in 6 DECADES,5 W

DECADE INDUCTANCE BOXES (DIB)

FT 1341	10 uH to100 mH in 4 DECADES
FT 1342	10 uH to1000 mH in 5 DECADES

DECADE CAPACITANCE BOXES (DCB)

FT 1351	100pF to 1 Micro Farad in 4 DECADES
FT 1352	100pF to 10 Micro Farad in 5 DECADES

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FT 1600 SERIES - ELECTRONIC DEVICE CHARACTERISTICS



ALL SEMICONDUCTOR DEVICE CHARACTERISTICS LIKE DIODE, ZENER DIODE, TRANSISTOR, FET, UJT, SCR, TRIAC, DIAC, MOSFET, IGBT, PHOTO DIODE, PHOTO TRANSISTOR, THERMISTOR, LED, etc., 2mm / 4mm PATCH CHORDS SET AND USER MANUAL PROVIDED WITH EACH TRAINER.

FT 1601	PN JUNCTION DIODE CHARACTERISTICS
FT 1602	ZENER DIODE CHARACTERISTICS
FT 1603	DIODE & ZENER DIODE CHARACTERISTICS
FT 1604	TRANSISTOR CHARACTERISTICS (CB, CE & CC)
FT 1605	TRANSISTOR CHARACTERISTICS (CB)
FT 1606	TRANSISTOR CHARACTERISTICS (CE)
FT 1607	TRANSISTOR CHARACTERISTICS (CC)
FT 1608	FET CHARACTERISTICS
FT 1609	MOSFET CHARACTERISTICS
FT 1610	SCR CHARACTERISTICS
FT 1611	TRAC CHARACTERISTICS
FT 1612	DIAC CHARACTERISTICS
FT 1613	UJT CHARACTERISTICS & UJT RELAXATION OSCILLATOR
FT 1614	THERMISTOR CHARACTERISTICS
FT 1615	LDR CHARACTERISTICS
FT 1616	PHOTO DIODE CHARACTERISTICS
FT 1617	PHOTO TRANSISTOR CHARACTERISTICS
FT 1618	LED CHARACTERISTICS
FT 1619	OPTO COUPLER CHARACTERISTICS
FT 1620	IGBT CHARACTERISTICS
FT 1621	ELECTRONICS COMPONENT TRAINER
FT 1622	ALL DEVICES CHARACTERISTICS TRAINER

DEVICE CHARACTERISTICS TRAINERS WITH DIGITAL METERS

FT 1651	PN JUNCTION DIODE CHARACTERISTICS WITH DIGITAL METERS
FT 1652	ZENER DIODE CHARACTERISTICS WITH DIGITAL METERS
FT 1653	DIODE & ZENER DIODE CHARACTERISTICS WITH DIGITAL METERS
FT 1654	TRANSISTOR CHARACTERISTICS (CB, CE & CC) WITH DIGITAL METERS
FT 1655	TRANSISTOR CHARACTERISTICS (CB) WITH DIGITAL METERS
FT 1656	TRANSISTOR CHARACTERISTICS (CE) WITH DIGITAL METERS
FT 1657	TRANSISTOR CHARACTERISTICS (CC) WITH DIGITAL METERS
FT 1658	FET CHARACTERISTICS WITH DIGITAL METERS
FT 1659	MOSFET CHARACTERISTICS WITH DIGITAL METERS
FT 1660	IGBT CHARACTERISTICS WITH DIGITAL METERS
FT 1661	SCR CHARACTERISTICS WITH DIGITAL METERS
FT 1662	TRAC CHARACTERISTICS WITH DIGITAL METERS
FT 1663	DIAC CHARACTERISTICS WITH DIGITAL METERS
FT 1664	UJT CHARACTERISTICS WITH DIGITAL METERS
FT 1665	LED CHARACTERISTICS WITH DIGITAL METERS

FT 1700 SERIES - NETWORK ANALYSIS



TRAINERS ON ALL TYPES OF NETWORK THEOREMS k, m - DERIVED FILTERS LINEAR & NON LINEAR WAVE SHAPING ARE INCLUDED IN THIS SERIES NECESSARY POWER SUPPLIES ARE PROVIDED ON BOARD. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

FT 1701	THEVENIN'S & NORTON'S THEOREMS
FT 1702	RECIPROCITY THEOREM
FT 1703	SUPER POSITION THEOREM
FT 1704	MAXIMUM POWER TRANSFER THEOREM
FT 1705	KIRCHOFF'S LAWS
FT 1706	OHM'S LAW
FT 1707	SERIES & PARALLEL RESONANCE
FT 1708	STUDY OF LC FILTERS - (LPF, HPF, BPF & BSF)

FT 1709	STUDY OF CONSTANT-K TYPE FILTERS (LPF, HPF, BPF & BSF)
FT 1710	STUDY OF CONSTANT-K TYPE FILTERS (LPF & HPF)
FT 1711	STUDY OF m-DERIVED FILTERS (LPF, HPF, BPF, & BSF)
FT 1712	STUDY OF m-DERIVED FILTERS (LPF & HPF)
FT 1713	STUDY OF COMPOSITE LOW PASS FILTER
FT 1714	STUDY OF COMPOSITE HIGH PASS FILTER
FT 1715	STUDY OF COMPOSITE BAND PASS FILTER
FT 1716	STUDY OF COMPOSITE BAND STOP FILTER
FT 1717	STUDY OF COMPOSITE LOW PASS & HIGH PASS FILTERS
FT 1718	STUDY OF COMPOSITE BAND PASS & BAND STOP FILTERS
FT 1719	STUDY OF ACTIVE FILTERS (LPF, HPF, BPF & BSF)
FT 1720	STUDY OF PHASE SPLITTER
FT 1721	PHASE DIFFERENCE IN L, C, R CIRCUITS
FT 1722	TRANSIENT RESPONSE OF AN RLC CIRCUIT
FT 1723	STUDY OF PHASE DIFFERENCE BETWEEN VOLTAGE ACROSS & CURRENT THROUGH C & L
FT 1724	LINEAR WAVE SHAPING (LR & CR) CIRCUIT
FT 1725	NON LINEAR WAVE SHAPING CIRCUITS (CLIPPERS & CLAMPERS)
FT 1726	TWO PORT NETWORKS PARAMETERS
FT 1727	T & Π (PI) ATTENUATORS
FT 1728	TWIN-T NETWORK CHARACTERISTICS
FT 1729	MEASUREMENT OF IMAGE IMPEDANCE AND CHARACTERISTIC IMPEDANCE OF A NETWORK
FT 1730	STAR-DELTA TRANSFORMATION
FT 1731	STUDY OF CHARGING & DISCHARGING (RC) CIRCUIT
FT 1732	LOOP & NODAL ANALYSIS
FT 1733	STUDY OF MILLER'S THEOREM
FT 1734	B-H CURVE & HYSTERESIS LOOP
FT 1751	OWEN'S BRIDGE FOR DETERMINATION OF UNKNOWN INDUCTANCE
FT 1752	DE SAUTY'S BRIDGE FOR MEASUREMENT OF UNKNOWN CAPACITANCE
FT 1753	MAXWELL'S INDUCTANCE - CAPACITANCE BRIDGE FOR MEASUREMENT OF LOW Q COILS (UNKNOWN INDUCTANCE)
FT 1754	HAY'S BRIDGE FOR MEASUREMENT OF UNKNOWN INDUCTANCE (HI Q COILS)
FT 1755	PORTABLE WHEATSTONE BRIDGE FOR MEASUREMENT OF UNKNOWN RESISTANCE

FT 1800 SERIES - AMPLIFIER CIRCUITS



TRAINERS ON TRANSISTOR AND AMPLIFIER PARAMETERS MEASUREMENT, DIFFERENT TYPES OF FEED BACK IN AMPLIFIERS ARE INCLUDED IN THIS SERIES. NECESSARY POWER SUPPLIES ARE PROVIDED ON BOARD. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

FT 1801	MEASUREMENT OF TRANSISTOR h-PARAMETERS
FT 1802	TRANSISTOR BIASING METHODS (FIXED BIAS & EMITTER BIAS)
FT 1803	SINGLE STAGE RC COUPLED TRANSISTOR CE AMPLIFIER
FT 1804	TWO STAGE RC COUPLED TRANSISTOR CE AMPLIFIER
FT 1805	SINGLE STAGE RC COUPLED FET AMPLIFIER
FT 1806	TWO STAGE RC COUPLED FET AMPLIFIER
FT 1807	TWO STAGE LC COUPLED AMPLIFIER
FT 1808	TWO STAGE TRANSFORMER COUPLED AMPLIFIER
FT 1809	TWO STAGE DIRECT COUPLED (DC) AMPLIFIER
FT 1810	EMITTER COUPLED DIFFERENTIAL AMPLIFIER
FT 1811	COMMON COLLECTOR AMPLIFIER (EMITTER FOLLOWER)
FT 1813	RF (IF) TUNED AMPLIFIER

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FT 1814	DARLINGTON TRANSISTOR AMPLIFIER
FT 1815	SINGLE ENDED POWER AMPLIFIER(CLASS A)
FT 1816	CLASS B PUSH PULL POWER AMPLIFIER
FT 1817	COMPLEMENTARY SYMMETRY AMPLIFIER
FT 1818	CLASS A, B, C & AB AMPLIFIER
FT 1819	CLASS C AMPLIFIER
FT 1820	FEED BACK AMPLIFIER (4 TYPES)
FT 1821	FEED BACK AMPLIFIER (VOLTAGE SERIES, CURRENT SERIES USING FET)
FT 1822	FEED BACK AMPLIFIER (VOLTAGE & CURRENT SHUNT USING TRANSISTOR)
FT 1823	BIASING OF FET SOURCE FOLLOWER
FT 1824	COMMON DRAIN AMPLIFIER

FT 1900 SERIES - OSCILLATORS & WAVE SHAPING CIRCUITS



TRAINERS ON ALL TYPES OF OSCILLATORS, SWEEP GENERATORS, WAVE FORM GENERATORS ARE INCLUDED IN THIS SERIES NECESSARY POWER SUPPLIES ARE PROVIDED ON BOARD. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

FT 1901	OSCILLATORS TRAINER (Wein Bridge, Hartely, Colpitts, Crystal & RC Phase Shift Oscillators.)
FT 1902	HARTLEY OSCILLATOR
FT 1903	COLPITT'S OSCILLATOR
FT 1904	CRYSTAL OSCILLATOR
FT 1905	RC PHASE SHIFT OSCILLATOR
FT 1906	WEIN BRIDGE OSCILLATOR-TRANSISTOR VERSION
FT 1907	TUNED COLLECTOR OSCILLATOR
FT 1908	CRYSTAL OSCILLATOR USING IC OP AMP
FT 1909	BLOCKING OSCILLATOR
FT 1910	SCHMITT TRIGGER CIRCUIT
FT 1911	RAMP GENERATOR USING TRANSISTOR
FT 1912	BOOT STRAP SWEEP GENERATOR
FT 1913	MILLER SWEEP GENERATOR
FT 1914	VOLTAGE CONTROLLED OSCILLATOR (VCO) USING IC 565
FT 1915	VOLTAGE CONTROLLED OSCILLATOR USING LM 566
FT 1916	WAVE FORM GENERATOR USING IC 8038

FT 2000 SERIES - MULTI VIBRATORS



TRAINERS ON DIFFERENT TYPES OF MULTI VIBRATORS USING TRANSISTORS, IC'S & 555 TIMERS AND TIMER APPLICATIONS ARE PROVIDED IN THIS SERIES. THE REQUIRED POWER SUPPLIES AND TRIGGER SOURCE ARE INCLUDED ON BOARD. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL PROVIDED WITH EACH TRAINER.

FT 2001	ASTABLE MULTIVIBRATOR - TRANSISTOR VERSION
FT 2002	BISTABLE MULTIVIBRATOR - TRANSISTOR VERSION
FT 2003	MONOSTABLE MULTIVIBRATOR - TRANSISTOR VERSION
FT 2004	MULTIVIBRATOR TRAINER - TRANSISTOR VERSION ASTABLE, BISTABLE & MONOSTABLE
FT 2005	ASTABLE MULTIVIBRATOR - OP AMP IC VERSION
FT 2006	BISTABLE MULTIVIBRATOR - OP AMP IC VERSION
FT 2007	MONOSTABLE MULTIVIBRATOR - OP AMP IC VERSION
FT 2008	MULTIVIBRATOR TRAINER - OP AMP IC VERSION ASTABLE, BISTABLE MONOSTABLE
FT 2009	MULTIVIBRATORS USING 555 (ASTABLE, BISTABLE & MONOSTABLE)

FT 2010	MULTIVIBRATORS USING DIGITAL GATES AND 74121(ASTABLE,BISTABLE & MONOSTABLE)
FT 2011	MONOSTABLE MULTI VIBRATOR USING IC 4047
FT 2012	555 TIMER TRAINER
FT 2013	555 TIMER APPLICATIONS ASTABLE, BISTABLE, MONOSTABLE

FT 2400 SERIES - POWER SUPPLY DEMONSTRATORS



TRAINERS ON 3 - TERMINAL POSITIVE & NEGATIVE, FIXED VOLTAGE REGULATORS, TRANSISTORIZED, OP - AMP BASED, VARIABLE VOLTAGE REGULATORS, VOLTAGE MULTIPLIERS ARE INCLUDED IN THIS SERIES. 2mm / 4mm PATCH CHORDS SET AND USER MANUAL ARE PROVIDED WITH EACH TRAINER.

FT 2401	VOLTAGE REGULATOR(78XX,79XX & 723)
FT 2401A	VOLTAGE REGULATOR(78XX,79XX ,565 PLL, 566 VCO)
FT 2402	RECTIFIERS & FILTERS
FT 2403	REGULATED POWER SUPPLY USING ZENER DIODE
FT 2404	REGULATED POWER SUPPLY USING TRANSISTOR - SERIES TYPE
FT 2405	REGULATED POWER SUPPLY USING TRANSISTOR - SHUNT TYPE
FT 2406	REGULATED POWER SUPPLY USING TRANSISTOR SERIES & SHUNT TYPE
FT 2407	REGULATED POWER SUPPLY USING IC 723
FT 2408	REGULATED POWER SUPPLY USING IC 741
FT 2409	REGULATED POWER SUPPLY USING IC LM 317
FT 2410	REGULATED POWER SUPPLY USING 7805 & 7905
FT 2411	VI CHARACTERISTICS OF 7805
FT 2412	VOLTAGE MULTIPLIER : DOUBLER, TRIPLER AND QUADRUPLER

FT 3200 - SERIES DIGITAL MULTI METER & PANEL METERS



BENCH TOP DMM FOR MEASUREMENT OF AC/DC - VOLTAGE, CURRENT & RESISTANCE DIGITAL PANEL METER FOR MEASUREMENT OF AC/DC - VOLTAGE AND CURRENT IN DIFFERENT RANGES. THESE ARE VERY USEFUL & STABLE INSTRUMENT AT THE WORK BENCH IN ANY ELECTRONICS LAB. USER MANUAL AND PROBES ARE PROVIDED ALONG WITH EQUIPMENT

FT 3201	3½ DIGIT BENCH TOP DIGITAL MULTI METER
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VOLT METERS

DC VOLT METERS	AC VOLT METERS
FT 3211	0 TO 199.9mV
FT 3212	0 TO 1.999V
FT 3213	0 TO 19.99V
FT 3214	0 TO 199.9V
FT 3215	0 TO 1000V
FT 3221	0 TO 199.9mV
FT 3222	0 TO 1.999V
FT 3223	0 TO 19.99V
FT 3224	0 TO 199.9V
FT 3225	0 TO 750V

AMMETERS

DC AMMETERS	AC AMMETERS
FT 3251	0 TO 199.9uA
FT 3252	0 TO 1.999mA
FT 3253	0 TO 19.99mA
FT 3254	0 TO 199.9mA
FT 3255	0 TO 1.999 A
FT 3262	0 TO 1.999mA
FT 3263	0 TO 19.99mA
FT 3264	0 TO 199.9mA
FT 3265	0 TO 1.999A

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