OSCILLOSCOPE CFJ-103

MAIN FRAME
Type 766H Mod 103

VERTICAL AMPLIFIER UNIT
Type 76-01A Mod 103

VIEWING HOOD
Type 7035

DELAYING SWEEP UNIT
Type 74-23A

EXTENSION CABLE
Type 7024

SPARE PARTS KIT
Type 7018

FILTERS
Part No.
4800 5863
4800 5861
4800 6231
FUNCTIONAL DESCRIPTION

The oscilloscope main frame, Type 766H, Mod 103, together with the two plug-in units, Type 76-01A, Mod 103, and 74-23A, constitute a complete general service Oscilloscope, Model CFJ-103, system whose vertical passband is DC to 25 megacycles. The screen filters, viewing hood, and extension cable add to the versatility and use of the system. The spare parts kit provides convenient replacement spares for those components of the oscilloscope system which are readily replaceable. Two instruction manuals are provided with this equipment.

The Type 766H, Mod 103 main frame contains a power supply and a cathode-ray tube, with the associated circuitry. Included with the oscilloscope main frame are a power cord and a storage drawer for stowing cables and accessories.

The Type 74-23A delaying sweep plug-in unit provides the main frame with either internally or externally triggered, as well as free-running, sweep at 14 delayed rates. A calibrated control provides adjustment of sweep delay.

The Type 76-01A, Mod 103 vertical amplifier plug-in unit is a general purpose, single-channel, dual-input amplifier, permitting the user to connect two signals to the oscilloscope with convenient front panel switching between the two inputs. The sensitivity can be adjusted in 11 steps. A variable gain control with a 2-1/2:1 range provides continuous overlap between attenuator steps.

The set of three filters (green, amber, and clear) permit good viewing of the oscilloscope under varying lighting conditions.

The Type 7035 viewing hood permits use of the oscilloscope under high ambient lighting conditions which would otherwise make viewing difficult.

The Type 7024 extension cable permits the plug-in units to be operated outside of the main frame for convenience of servicing.

The Type 7018 spare parts kit provides replacement lamps, fuses, and vacuum tubes for servicing convenience.

RELATION TO OTHER EQUIPMENT

Versatility of the Type CFJ-103 oscilloscope may be increased through the use of other Fairchild 76 00 series vertical amplifier plug-in units, and 74 00 series time base of x-axis plug-in units.

EQUIPMENT REQUIRED BUT NOT SUPPLIED

N/A

ELECTRICAL AND MECHANICAL CHARACTERISTICS

Type 766 H, Mod 103 Main Frame

1. Vertical-deflection system
   a. Directly driven by Type 76-01A, Mod 103 amplifier plug-in unit

2. Horizontal-deflection system
   a. Directly driven by Type 74-23A delaying sweep plug-in unit

3. Cathode-ray tube
   a. 5-inch, flat-faced, round
   b. 13 KV accelerating potential
   c. P2/B phosphor

4. Power Supply
   a. 105 to 125 V or 210 to 250 V AC at 60-cycle line
   b. 48 to 1000 cps
   c. From 150 to 230 watts depending on plug-in used
   d. Electronically regulated DC voltages

5. Scale
   a. Internal
   b. Edge lighted
   c. Continuously adjustable illumination
   d. Marked in 6 vertical and 10 horizontal divisions (cm) with scribed 10 percent and 90 percent lines

6. One storage drawer

Type 74-23A Delaying Sweep Plug-in Unit

1. Sweep range
   a. 4 calibrated ranges: 5 sec, 1000 usec, 100 usec, 1 usec full scale
   b. 3 percent accuracy
2. Triggering facilities
   a. Automatic or free-run
   b. Triggering slope
      (1) Plus or minus
   c. Triggering source
      (1) Internal or external
   d. Trigger sensitivity
      (1) 0.5 V peak-to-peak up to 1 mc
      (2) 1.0 V RMS to 10 mc

3. Sweep magnification
   a. Times 5 for all sweep rates
   b. 5 percent accuracy

4. Sweep delay
   a. 100 usec delay (maximum)
      (1) 6 steps from 2 to 1000 usec per division
      (2) 0.1 percent accuracy
   b. 1000 usec delay (maximum)
      (1) 6 steps from 20 to 1000 usec per division
      (2) 0.1 percent accuracy

5. Coupling
   a. Normal
   b. A Strobed
   c. R Delayed

Type 76-01A, Mod 103 Vertical Amplifier Plug-in Unit

1. Operating Modes
   a. Input A, Input B

2. Sensitivity
   a. 11 calibrated steps from 50 mv to 100 V per division
   b. 3 percent accuracy
   c. Front panel adjustable to approximately 250 V per division (uncalibrated)

3. Rise time
   a. 15 nanoseconds

4. Passband
   a. DC to 25 mc

5. Input coupling
   a. AC or DC

6. Input impedance
   a. 1 megohm shunted by 40 picofarads

7. Maximum input voltage
   a. 600 V peak-to-peak

Viewing Hood, Type 7035
1. Green plastic

Extension Cable, Type 7024
1. Potted backshell connectors

2. Black finish

3. Thirty-two contact female connector one end

4. Thirty-two contact male connector other end

Filters

1. One each of three types
   a. Clear
   b. Amber
   c. Green

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<th>TYPE OR PART NUMBER</th>
<th>QTY PER UNIT</th>
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No crystals used in this oscilloscope system
REFERENCE DATA AND LITERATURE

Instruction manual for the equipment:

Oscilloscope CFJ-103,
Fairchild part no. 6704 7751

MANUFACTURER'S OR CONTRACTOR'S DATA

Manufactured by:

Fairchild Instrumentation
Division of Fairchild Camera and
Instrument Corp.
50 Somerset Place
Clifton, New Jersey

Oscilloscope main frame
Fairchild, Type 766H, Mod 103

Delaying sweep plug-in unit
Fairchild, Type 74-23A

Vertical amplifier plug-in unit
Fairchild, Type 76-01A, Mod 103

Viewing hood
Fairchild, Type 7035

Extension cable
Fairchild, Type 7024

Filters
Fairchild, Part no. 4800 5863 (green),
4800 5861 (amber), 4800 6231 (clear)

Spare parts kit
Fairchild, Type 7018

Contract: Tcg-06467-A

Date: 1 May 1965

Purchase Descriptions: EEE-2-65

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EQUIPMENT SUPPLIED

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