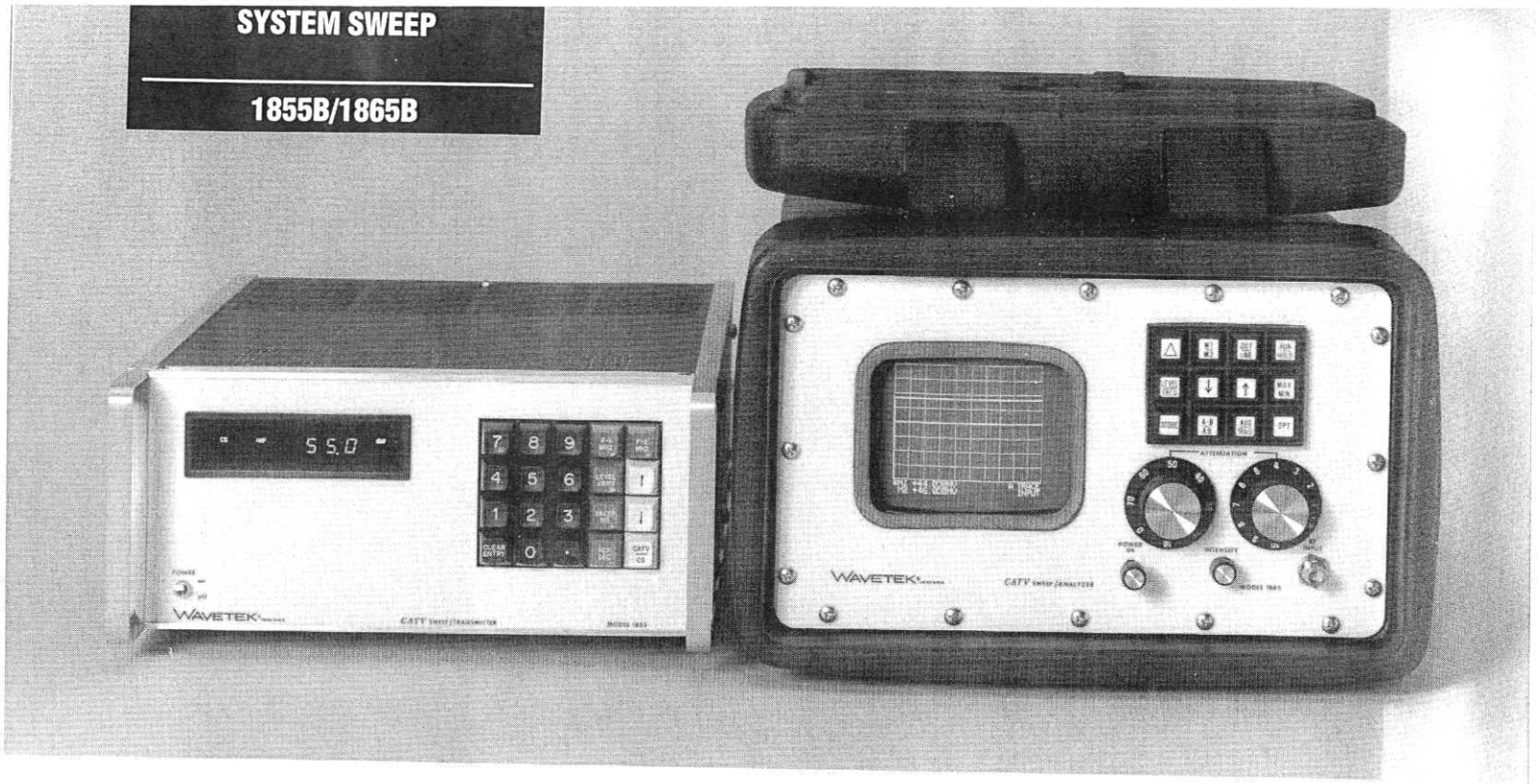

Cable System Sweep

1855B - 450 MHz & 5000 - 600 MHz Transmitters

- Microprocessor Controlled Precision
- Easy Keyboard Control of Sweep Parameters
- Sweep can be Remotely Activated with Model RC-IA

1865B - 450 MHz & 6000 - 600 MHz Receivers

- Cursor Identification of Frequency and Level
- Alpha-Numeric Readouts for Unambiguous Results
- Max-Min and Delta Keys Provide Quick Peak-To-Valley Measurement
- Multiple Storage and Normalization Option Available

General Description

The 1855B/1865B Sweep Recovery system consists of a microprocessor controlled transmitter and receiver. The headend installed 1855B transmitter sends out a sweep of specified level, width and rate at a specified repetition interval. The transmitter has a flexible control arrangement, so the sweep parameters can be set to keep subscriber interference at a minimum. The portable, battery operated 1865B receiver is taken out in the field to test the swept response at any test point in the system.

The Recovery System provides an easy-to-use technique to maintain or audit your cable system. It can cut service calls by indicating changes in the trunk which affect the swept response even though the pilots may be at the proper level. System sweeping will aid in locating problems as they develop, so they may be corrected before the entire system is down.

Model 1855B

The Model 1855B is a microprocessor controlled, bench or rack mounted sweep transmitter. The front panel keyboard and the easy to-read LED readouts verify entry and control settings. Once the parameters have been entered, the unit requires no additional attention unless a change in one of the parameters is desired. A microprocessor in the Model 1855B stores and automatically transmits the entered data on a phase modulated 50 MHz pilot carrier operating 20 dB below the sweep output level.

Other pilot carrier frequencies are available; 43 and 52 MHz for European use, and the standard optional pilot frequencies (5, 155, 165, 175, 225, 243, and 270 MHz). Optional pilots can be tailored specifically for any system configuration (5 to 270 MHz). The sweep system can be set with up to two optional pilots; for instance 5 and 155 MHz (the standard pilot is necessary in all systems).

Model 1855B uses a frequency counter to accurately set the Start/Stop sweep frequencies. Up/Down keys provide convenient automatic tuning in 100 kHz intervals from 1 to 450 Mhz. Remote selection of the Operate or Standby mode is possible through external contact closure via a rear panel connector.

Model 1865B

The Model 1865B Sweep Analyzer is a portable, battery-operated unit in a high impact plastic case. It features microprocessor technology, digital storage, refreshed display, alphanumeric readout, a unique moveable cursor/measurement system and a battery-saver circuit. The Model 1 865B receives the transmitted signal from the Model 1855B, decodes the phase-modulated pilot carrier, and instantly and automatically presets itself for the sweep duration, sweep repetition rate, and Start/Stop sweep frequencies that were entered into the Model 1855B at the headend.

The 1865B receiver has two memories, A and B. The A memory is the memory most often used, in which the current test trace is stored until a new update is received and processed. The B memory is for trace storage for later comparison. B memory can be loaded by reading a card reader card or by storing to B from an ME-3 "stacker" memory. When a comparison of the A and B memories is desired, the receiver display can be set up to alternate at a 20 Hz rate between A and B traces.

The "average" function of the B memory allows periodic, non-repetitive disturbances of the A memory response curve, to be averaged out by the B memory.

Cursor Measurement System

The Model 1865B has a unique cursor system which allows easy, precise measurement of the frequency and amplitude at any point on the displayed response curve. When in the frequency mode, either of the two cursors, M1 and M2, can be moved horizontally (independently) across the face of the CRT. The amplitude and frequency at the point where each cursor intersects the displayed response is automatically indicated on the CRT in alphanumeric characters.

The Delta key provides direct alphanumeric readout of the difference in frequencies of Ml and M2, and also the difference in level at those frequencies. The LEVEL/FREQUENCY key rotates M1 and/or M2 90° so that the cursors will appear as horizontal lines across the CRT. Either or both cursors can be moved vertically to any position on the CRT.

ME-3

The Memory Expansion option (ME-3) extends the capability of the 1865B receiver. It has three different modes of operation; the stacker, the normalizer, and the averager.

The stacker provides for the storage of up to 7 different reference traces, a kind of reference library. A headend reference can be stored in nonvolatile memory to be compared directly to a system test point, either by the A/B comparison method or by using the normalizer.

The normalizer aids in comparison analysis by subtracting a stored reference trace and displaying a 2 dB per division representation of the result.

When the system test point is aligned as well as possible the normalizer display will indicate a straight line response across the center line of the display, indicates no difference between the system test point and the reference that was stored at the first amp.

5000/6000

A high level sweep system designed for use on systems with channel/frequency capacity to 600 MHz. The ME-3 memory expansion feature is standard on the model 6000 sweep receiver.

SPECIFICATIONS (MODEL 1855B)

Frequency Range
1 to 450 MHz in 100 kHz steps maximum sweep width, 400 MHz anywhere in frequency range.

Operating Modes
CATV Sweep, Continuous Sweep, or CW.

Frequency Control Keyboard
Sweep Fl to F2 or CW.

Frequency Accuracy Sweep or CW
1% of Swept band, ±25 kHz.

Spurious Signals
1 to 450 MHz, 30 dBc.

RF Output Amplitude
Adjustable from +60 to +50 dBmV in 0.1 dB increments.

RD Output Impedance
75Ω.

RF Output Flatness
±0.25 dB over entire frequency range.

Tilt Control
6 dB.

Sweep Speed
1 ms to 15 ms in 1 ms intervals.

Repetition Rate
1 second to 25.5 seconds in 0.1 second intervals.

GENERAL

Dimensions
20 5 cm (12 in.) wide; 14 cm (5 1/2 in.) high; 34.9 cm (13 3/4 in.) deep.

Weight
9.9 kg (22 lb.)

Power
115 or 230 Vac ±10%; 50 to 60 Hz; approximately 40 VA.

OPTIONS

B-3
Tunable notches, blank sweep from selected portions of the spectrum. Center frequency for each notch is tunable throughout instrument sweep range, and span for each notch can be adjusted to any width up to the maximum frequency span of the instrument. Ideal for use with 1882A in combo sweep mode to eliminate continuous sweep from active video or other services susceptible to sweep interference.

DP-STD-1855B
Additional pilot (dual pilot option) to allow sweep of two way, institutional, and LAN cable systems. Standard frequencies: 5, 155, 165, 175, 225, 243, and 270 MHz.

DP-SP-1855B
Dual pilot at special (nonstandard) frequency (5 to 270 MHz).

TP-STD-1855B
Two additional pilots (triple pilot option) for sweeping different two way configurations. Standard frequencies: 5, 155, 165, 175, 225, 243, and 270 MHz.

TP-SP-1855B
Triple pilots with special frequency (5 to 270 MHz).

K-108
Rack mount kit for 1855B.

RC-IA
Remote Control Sweep.

SPECIFICATIONS (MODEL 1865B)

Frequency Range
5 to 450 MHz.

Sensitivity
-10 to +60 dBmV.

Impedance
75Ω.

SYSTEM SWEEP

1855B/1865B

Display
5 in. diagonal, electromagnetic. Type: Raster Scan, refreshed. Graticule, 8 div. x 10 div., developed by the microprocessor coincident with data.

Frequency Accuracy
±25 kHz over a single channel.
1% of swept band, ±0.1 MHz.

Level
Accuracy: ±0.5 dB.
Resolution: ±0.01 dB.

GENERAL

Weight
13.8 kg (30.5 lb).

Power
Battery, rechargeable sealed lead-acid, operating life approxitmately $^1/_2$ hours.

OPTIONS

DP-STD-1865B
Additional pilot (dual pilot option) to allow sweep of two way, institutional, and LAN cable systems. Standard frequencies: 5, 155, 165, 175, 225, 243, and 270 MHz.

DP-SP-1865B
Dual pilot at special (nonstandard) frequency (5 to 270 MHz)

TP-STD-1865B
Two additional pilots (triple pilot option) for sweeping different two way configurations. Standard frequencies: 5, 155, 165, 175, 225, 243, and 270 MHz.

TP-SP-1865B
Triple pilots with special frequency (5 to 270 MHz).

ME-3
Memory expansion option for 1865B. Stacker allows nonvolatile storage of 7 different reference traces. Normalizer provides 2 dB/division display of difference between stored reference and test point response. Advanced averager.

BC-3A
Heavy duty battery charger and power supply for 1865B.

BU-1
For holding 1865B or system analyzer while suspended in a bucket truck.

C-1
Polaroid camera for display pictures (1865B, 1880, or 1881)

RC-1
Addressable remote controller for 1855B. Activates 1855B sweep on reception of DTMF tone (from two way radio transmission).

MTT-1
Microphone tone transmitter. Two way radio microphone with built-in DTMF keypad for tone transmission (for use with RC-1 system).

TT-1
Tone transmitter, generates DTMF tone for acoustical coupling with two way radio (for use with RC-1 system).

ACCESSORIES FURNISHED

BC-1
Trickle Charger—automatically switches from fast to slow charge.

BC-2
Cigarette Lighter Adapter—allows the 1865B to operate from the alternator system of the vehicle. Includes 40 feet of cable.

Calibration Cable
To verify transmitter-to-receiver flatness.

Viewing Hood
For viewing in sun light.

Instruction Manual
Be sure to specify pilot frequencies when ordering optional pilots. Both the 1855B and 1865B will require ordering the appropriate pilot

FACTORY/FOB
Indianapolis, IN

ORDER INFORMATION

BASE UNITS	
Model 1855B (450 MHz transmitter)	**$4,995**
Model 5000 (600 MHz transmitter)	**$5,800**
Model 1865B (450 MHz receiver)	**$7,695**
Model 6000 (600 MHz receiver)	**$9,100**
Options for 1855B/5000	
B-3	**$325**
DP-STD-1855B	**$595**
DP-SP-1855B	**$895**
TP-STD-1855B	**$1250**
TP-SP-1855B	**$1,795**
K-108	**$70**
RC-1A	**$675**
Options for 1865B/6000	
DP-STD-1865B	**$595**
DP-SP-1865B	**$895**
TP-STD-1865B	**$1,250**
TP-SP-1865B	**$1,795**
ME-3 (standard in 6000)	**$995**
BC-3A	**$525**
BU-1	**$195**
C-1	**$600**
RC-1	**$675**
MTT-1	**$195**
TT-1	**$75**