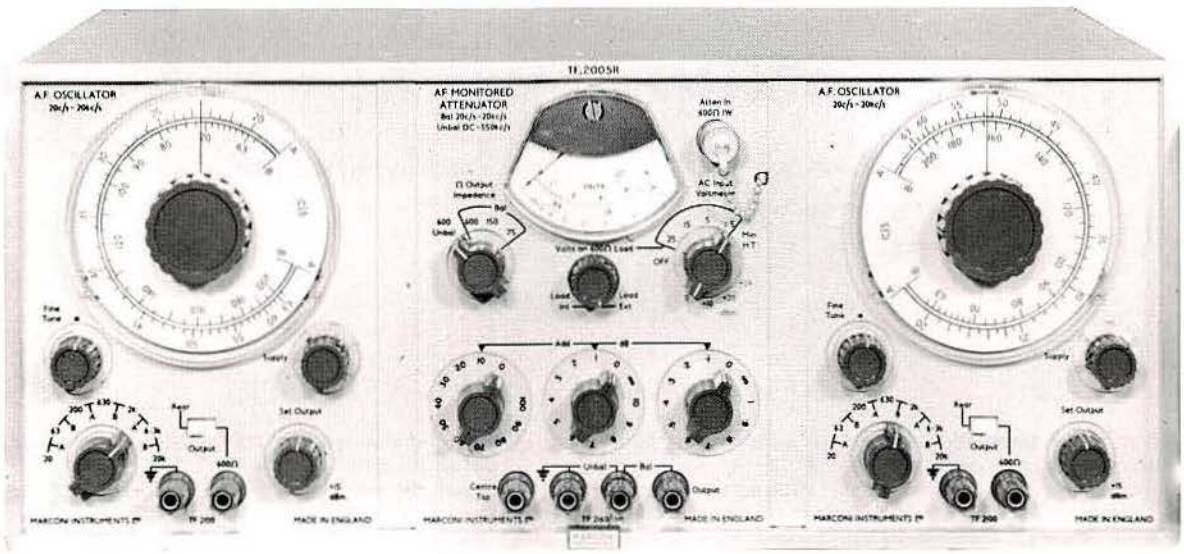
Two-Tone Signal Source

- ☐ Two identical oscillators covering 20 Hz to 20 kHz
- ☐ Less than 0·1% distortion
- ☐ For intermodulation measurements on high quality a.f. equipment



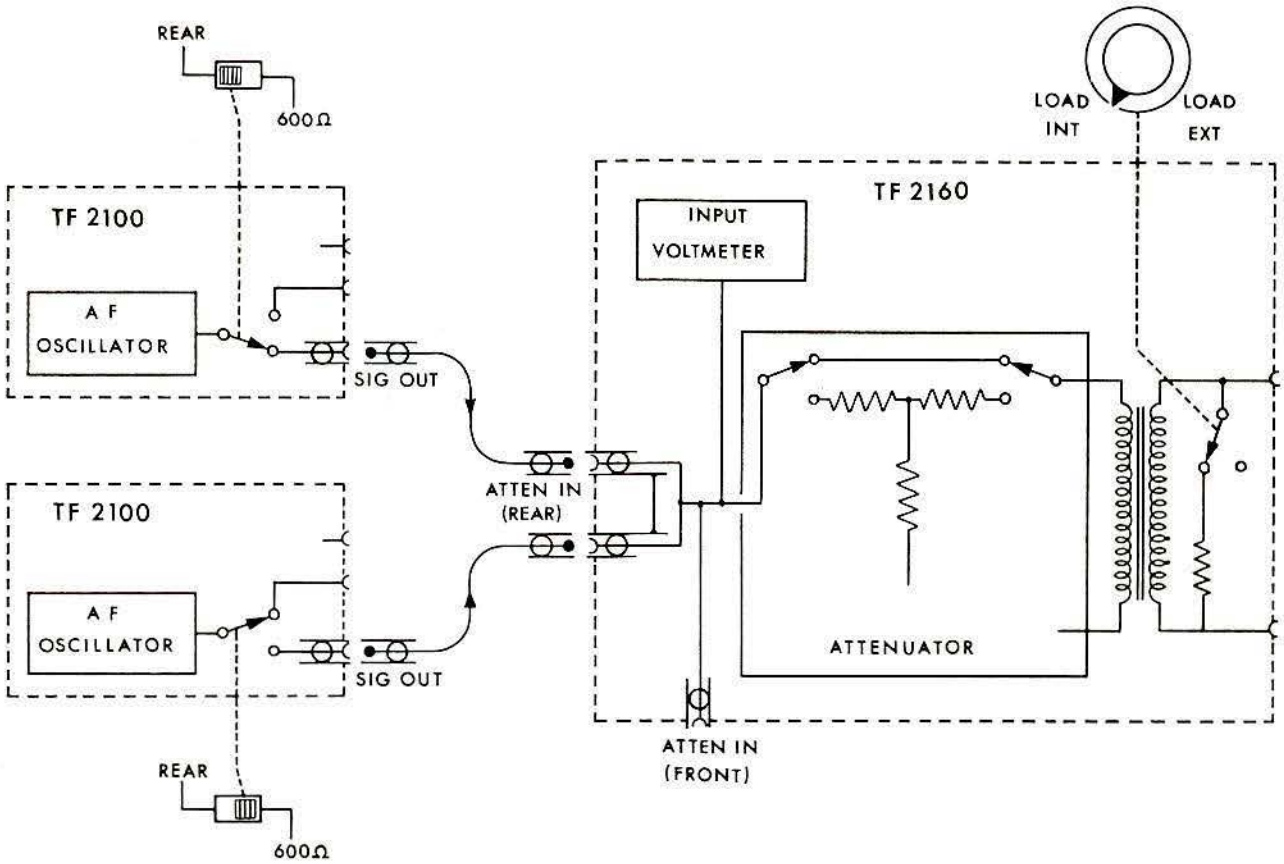
In certain types of a.f. amplifying or transmission equipment intermodulation distortion produced by non-linearity is more important than the harmonic distortion. Standard methods of measurement of inter-modulation distortion have, therefore, been recommended by S.M.P.T.E. and C.C.I.F. The TF 2005 Two-Tone Signal Source is an assembly of standard Marconi modular units arranged to form a convenient test set for measurements following these recommendations.

The instrument comprises two A.F. Oscillators type TF 2100 and an A.F. Monitored Attenuator type TF 2160/1 mounted together in a standard Marconi full-module case. Attenuator type TF 2160/1 is a special version of the A.F. Monitored Attenuator TF 2160, and differs from the standard instrument only in that it has two rear coaxial inlets which are connected in parallel to take the outputs from the two a.f. oscillators. The frequency of each oscillator is, of course, indicated on its own calibrated dial. Output levels are set up by temporarily isolating each oscillator in turn from the monitor—by means of the front panel switch—while the output level of the other is being

checked. The overall amplitude of the composite signal is adjusted by means of the attenuator controls.

For general purpose applications either oscillator can be used singly with the attenuator to form an A.F. Signal Source having the same specification as the Marconi TF 2000. Or, of course, the a.f. output can be drawn directly from either oscillator separately.

The full technical specifications of the units comprising the TF 2005 are given in the appropriate data sheets; and the accompanying specification gives only those performance features which are applicable to the two-tone function.



	The complete equipment comprises two A.F. Oscillators TF 2100 and one A.F. Monitored Attenuator TF 2160/1.
Frequency Range	20 Hz to 20 kHz in six bands. (Each oscillator can be adjusted independently.)
Amplitude	*Reference Level:* Up to +10 dBm from each oscillator.
	Attenuator Range: 111 dB in 0·1 dB steps.
Harmonic Distortion	Less than 0·05% between 63 Hz and 6 kHz when using unbalanced output.
	Generally less than 0·1% under other conditions.
Intermodulation	Below —80 dB with respect to the wanted signal.
Hum	Below —80 dB with respect to the wanted signal.

POWER REQUIREMENTS	
A.C. Supply	95 volts to 130 volts a.c. or 190 volts to 260 volts a.c. 45 Hz to 500 Hz; or 105 volts to 130 volts a.c. or 210 volts to 260 volts ac.. 500 Hz to 1,000 Hz; 14 VA.
D.C. Supply	65 volts to 90 volts d.c.; load 60 mA.
ACCESSORIES	
Supplied	
TM 6958	Signal leads for coupling the oscillators to the Attenuator. (Two)
TM 7052	Mains Lead.
TM 7053	H.T. Lead.
	ASSOCIATED INSTRUMENT
TF 2330	Wave Analyser.