

P M Q C

INSTRUMENT TYPE 067-0518-00  
Harmonic Modulator  
Calibration Fixture

PMQC TEST INSPECTION PROCEDURE

This procedure has been prepared for the PMQC department. It will be a guide for a check of the instruments quality. The test limits in this procedure are, in the most part, internal limits set at the factory and are confidential. Inspection procedure test limits are the same as those found in the FCP.

This procedure, the test limits and any subsequent changes will be maintained and issued by PMQC. Abbreviations used are taken from Tektronix Standard A-100. Words written in all capital, or upper case letters, are titles of procedure steps, front or rear panel labels, or TEKTRONIX instrument names.



## PMQC

### Introduction and Presets

This procedure has three separate columns. The first or left hand column is headed by a general description of the area of the instrument that is inspected. This is in bold face. Next is a number series, this will start on the first procedure page with 100 numbers, page 2 will be 200 series, etc. Alongside this number will be the specific point of inspection and under this the tolerance. In some cases, there may be 1 or more tolerances. An example would be, no more than -3dB at 50MHz (not less than 2.8cm). This will only be to aid the inspector and to make the computation whenever feasible.

The second column will give the necessary equipment and the proper settings to make the check. The third column will be blank and is provided for the use of the inspector or the inspection group to use as is necessary for notes etc.

### Presets

#### TYPE 546 TIME BASE "A"

TRIGGERING	
LEVEL	0
MODE	AUTO STABILITY
SLOPE	+ (plus)
COUPLING	AC
SOURCE	NORMAL
HORIZONTAL DISPLAY	"A"
TIME/CM	10mSEC
SWEEP MAGNIFIER	X1, OFF

#### TYPE 1L10

RF CENTER FREQ	35
VERTICAL DISPLAY	LIN
RF ATTEN	OFF
OSC SELECTOR	INT OSC
DISPERSION-KC/CM )	SEARCH
COUPLED RESOLUTION )	

Plug the TYPE 1L10 into the test scope.  
Connect the BNC to BNC cable assembly between OSC OUT and OSC IN. Connect scope "A" SWEEP to 1L10 SWEEP INPUT with BNC to banana plug patch cord. Turn the test scope POWER on.

- 101. GENERAL APPEARANCE
- 102. 60MHz TRAP; must attenuate 60MHz spurious response.
- 201. MODULATION FREQUENCY 1; must display center freq plus side bands.
- 301. RF VARIABLE; cw rotation, center freq amplitude must increase and side bands decrease.
- 302. MODU .FREQ 2 SWITCH OFF; must have center freq and no side bands.
- 303. MODU FREQ 2 SWITCH ON; must have center freq with side bands.
- 304. MODULATION 2 VARIABLE; cw rotation, side bands must increase in amplitude, ccw rotation side bands must decrease.

101. GENERAL APPEARANCE

102. 60MHz TRAP; must attenuate 60MHz spurious response.

- 101. CHECK - for defects in material and workmanship.
- 102. CONNECT - 184 through 50Ω cable, 50Ω Termination to HARMONIC MODULATOR input.
- CONNECT - HARMONIC MODULATOR OUTPUT through 50Ω cable, 10:1 attenuator, 50Ω Termination to 1L10 RF INPUT.
- SET - MODULATION 2 VARIABLE ccw.
- SET - RF VARIABLE ccw.
- SET - MODULATION FREQ 2 switch to OFF.
- SET - 60MHz TRAP switch to OUT.
- SET - 184 MARKER SELECTOR to 1μS.
- ADJUST - 1L10 RF CENTER FREQ control to center display.
- SET - DISPERSION KC/CM COUPLED RESOLUTION to 2.
- ADJUST - 1L10 RF CENTER FREQ control and FINE RF CENTER FREQ control to center display.
- SET - 60MHz TRAP switch to IN.
- CHECK - for no spurious or attenuated response at right side of center freq. See Fig 1 and 2.

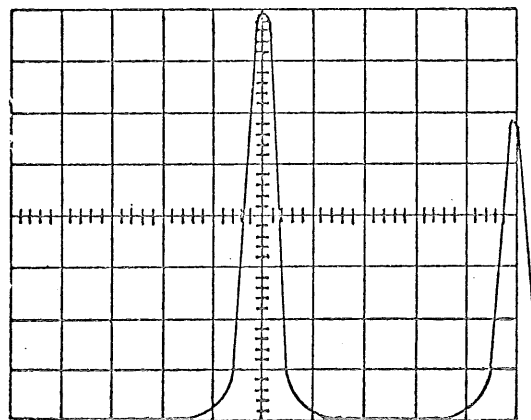


Fig 1. 60 MC TRAP OUT

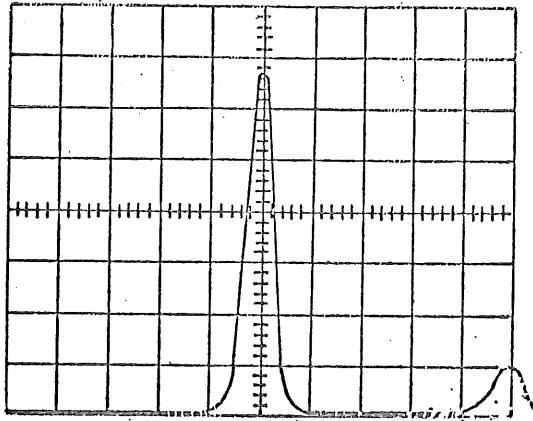


Fig 2. 60 MC TRAP IN

201. MODULATION  
FREQUENCY 1; must  
display center  
freq plus side  
bands.

201. CONNECT - SINE WAVE GENERATOR through 50Ω cable to  
HARMONIC MODULATOR MODU FREQ 1.
- SET - SINE WAVE GENERATOR FREQUENCY to 2 + 0.
- SET - MULTIPLIER to 1KHz.
- SET - AMPLITUDE to 2.
- SET - MULTIPLIER to 1.
- CHECK - for a center freq plus side bands. See Fig  
3.

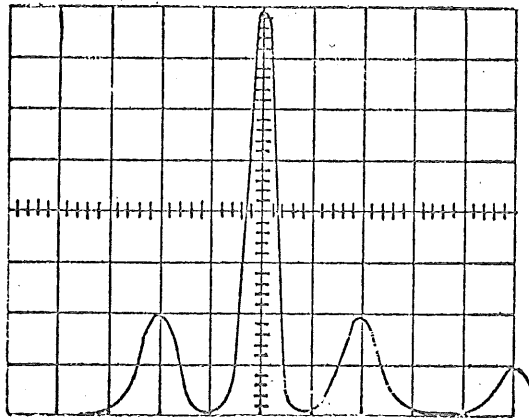


Fig 3.

301. RF VARIABLE;  
cw rotation, center  
freq amplitude must  
increase and side  
bands decrease.

302. MODU FREQ 2  
SWITCH OFF; must  
have center freq  
and no side bands.

303. MODU FREQ 2  
SWITCH ON; must  
have center freq  
with side bands.

304. MODULATION 2  
VARIABLE; cw rota-  
tion, side bands  
must increase in  
amplitude, ccw  
rotation side bands  
must decrease.

301. ROTATE - RF VARIABLE cw.  
CHECK - center freq amplitude increases and side  
bands decrease.  
SET - RF VARIABLE ccw.  
REMOVE - signal from MODU FREQ 1.
302. CONNECT - 106 HI AMPLITUDE OUTPUT through 50Ω cable  
and 50Ω Termination to MODU FREQ 2.  
SET - 106 REPETITION RATE RANGE to 1KHz.  
SET - MULTIPLIER to 2.  
SET - SYMMETRY to center.  
SET - HI AMPLITUDE-FAST RISE to HI AMPLITUDE.  
SET - AMPLITUDE 1/4 turn from ccw.  
CHECK - display for a center freq with no side bands.
303. SET - MODU FREQ 2 switch to ON.  
CHECK - display with center freq and side bands.
304. ROTATE - VARIABLE control cw.  
CHECK - side bands increase in amplitude.  
ROTATE - variable control ccw.  
CHECK - side bands decrease in amplitude.

067-0518-00

EQUIPMENT REQUIRED

- 1 - TEKTRONIX TYPE 540 SERIES OSCILLOSCOPE
- 1 - TEKTRONIX TYPE 1L10 PLUG-IN
- 1 - TEKTRONIX TYPE 184 TIME MARK GENERATOR
- 1 - TEKTRONIX TYPE 106 SQUARE WAVE GENERATOR
- 1 - SINE WAVE GENERATOR 1Hz-1MHz (067-0542-99)
- 4 - 50 $\Omega$  BNC cables (012-0057-00)
- 1 - 50 $\Omega$  X10 attenuator (011-0059-00)
- 1 - 50 $\Omega$  Termination (011-0049-00)
- 1 - GR to BNC female adapter (017-0063-00)
- 1 - Patch cord BNC to banana plug (012-0091-00)
- 1 - Cable assembly, BNC to BNC (012-0097-00)