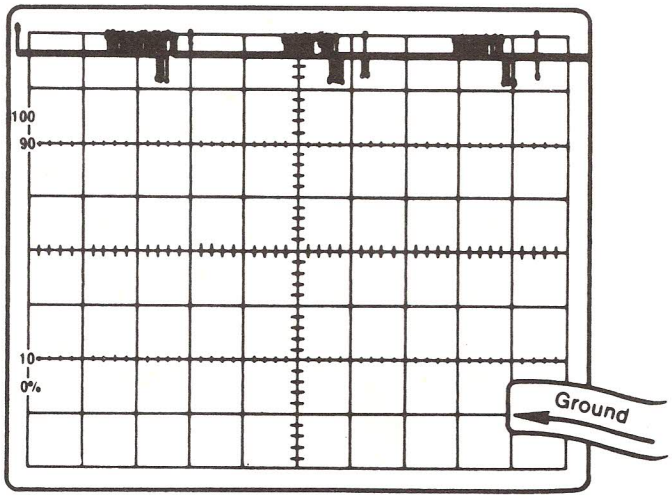
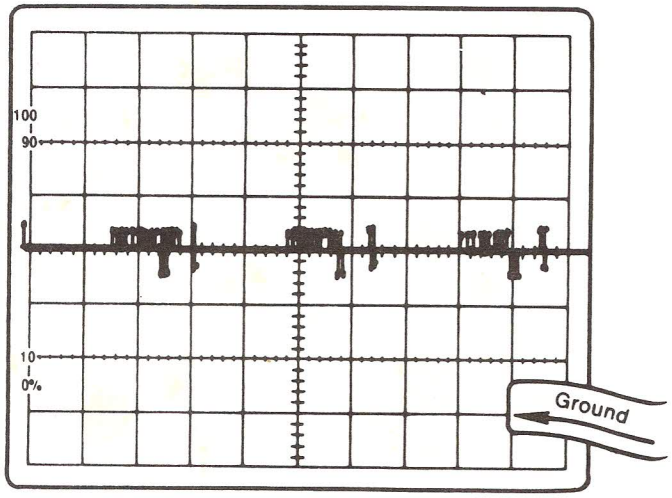
Pictures of Signals

The following pages have illustrated representations of oscilloscope readings. An oscilloscope with a bandwidth of at least 35 MHz is recommended for accurate readings. Adjacent to each diagram are directions of where to probe the circuit board, a signal description, where applicable, vertical and horizontal sensitivity adjustment information and directions to obtain correct signal representations.



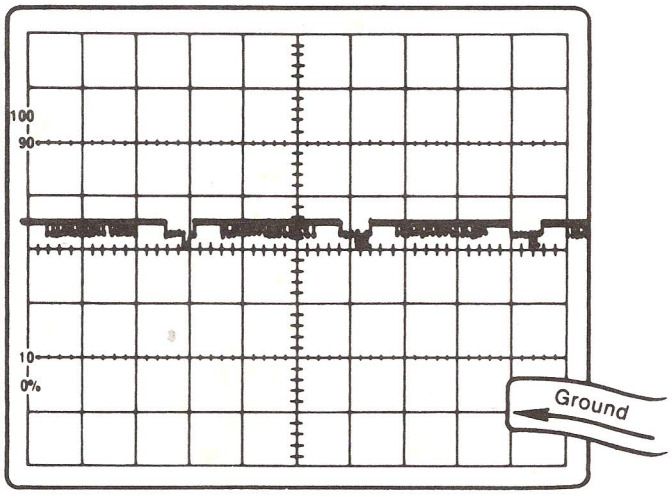
C66 (+) R-Y VIDEO
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 0.2mSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



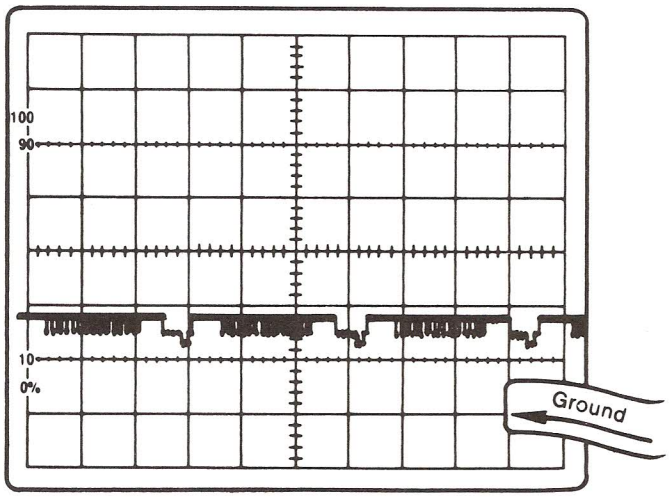
C66 (–) R-Y VIDEO
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 0.2mSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



C67 (+) B-Y VIDEO
Vertical Sensitivity 2V/Div
Horizontal Sensitivity 0.2mSec/Div

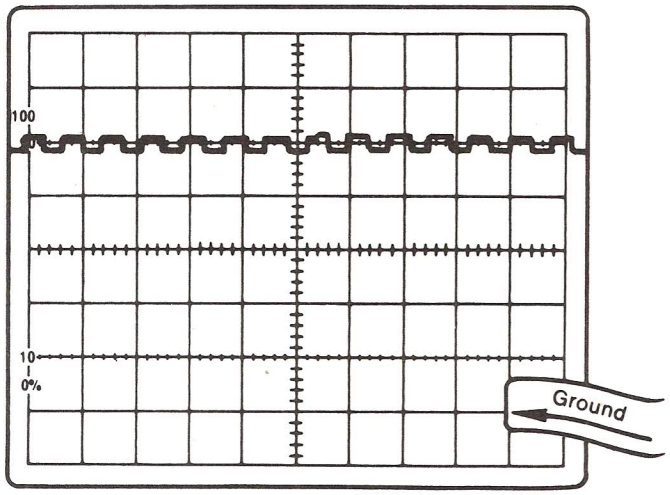
Signal Shown Is During Blue Menu Screen of Game Cartridge.



C67 (–) B-Y VIDEO

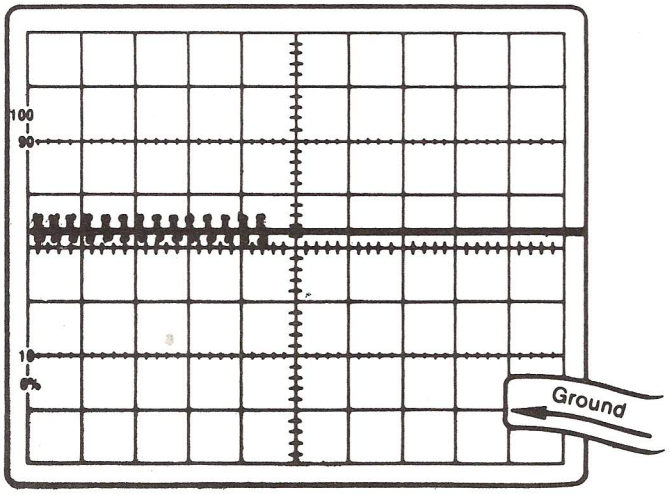
Vertical Sensitivity 2V/Div
Horizontal Sensitivity 0.2mSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



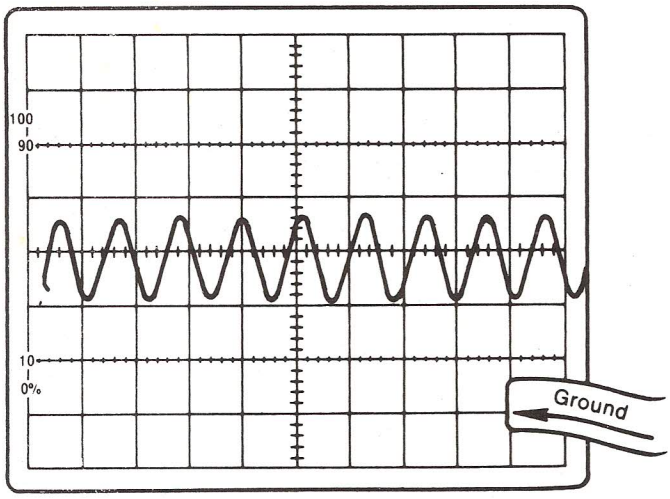
J4:2 — AUDIO

Vertical Sensitivity 2V/Div
Horizontal Sensitivity 5mSec/Div



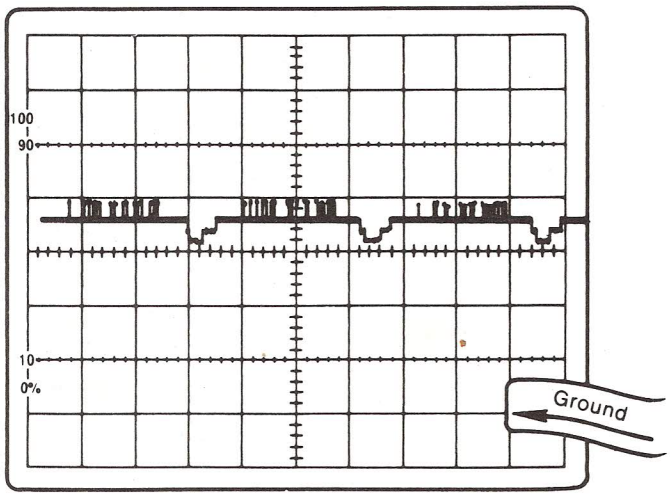
J4:3 — R-Y VIDEO

Vertical Sensitivity 2V/Div
Horizontal Sensitivity 0.5mSec/Div



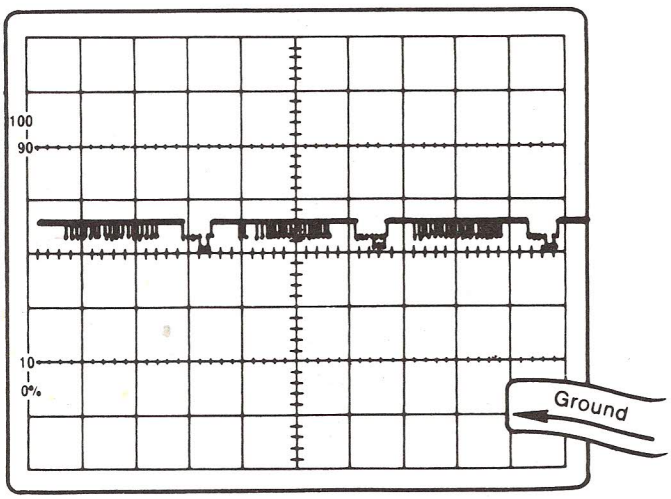
J4:4
Vertical Sensitivity 5mV/Div
Horizontal Sensitivity 2μSec/Div
AC Coupled.

Signal Shown Is Ripple on 12VDC Line.
DC Level Should Be 12VDC.



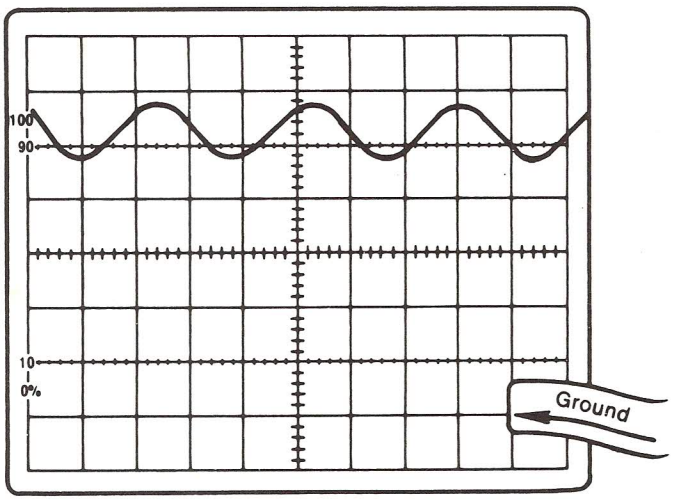
J4:6 — COMPOSITE VIDEO
Vertical Sensitivity 2V/Div
Horizontal Sensitivity 0.2mSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



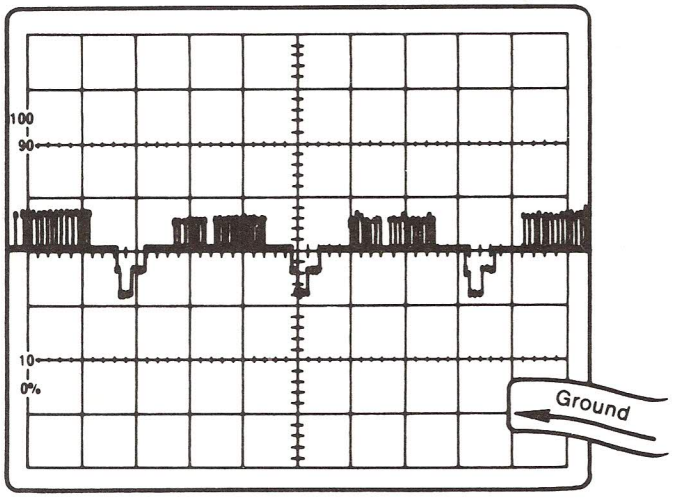
J4:7 — B-Y VIDEO
Vertical Sensitivity 2V/Div
Horizontal Sensitivity 0.2mSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



J4:8 — RF CLOCK

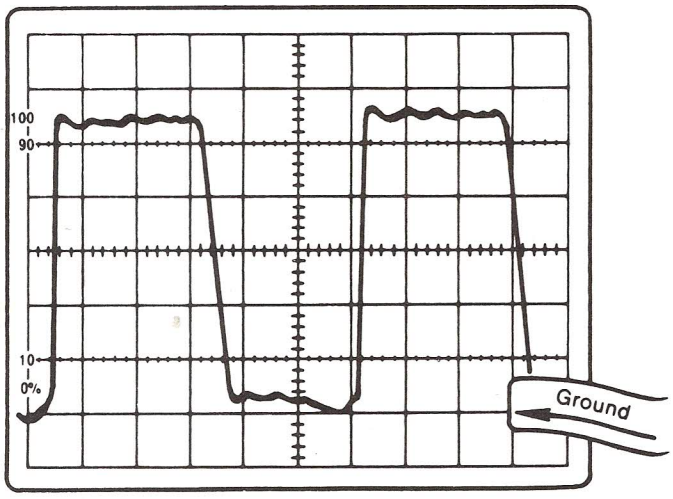
Vertical Sensitivity 2V/Div
Horizontal Sensitivity 1μSec/Div
Frequency 3.579545 MHz ± 100Hz



Q6 BASE Y VIDEO

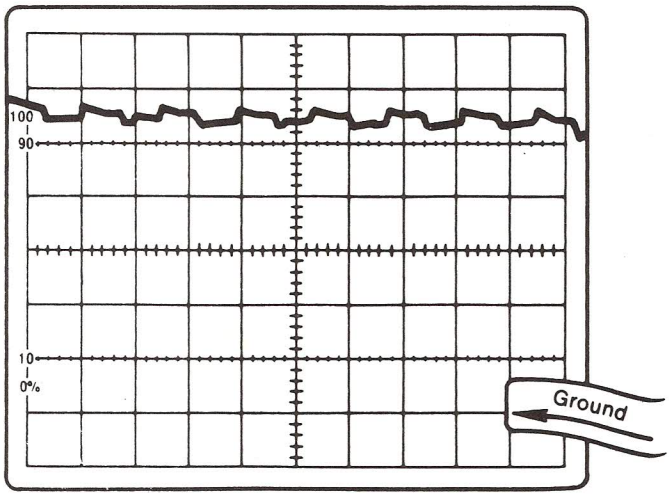
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 0.2mSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



U1:6 — MAIN CLOCK

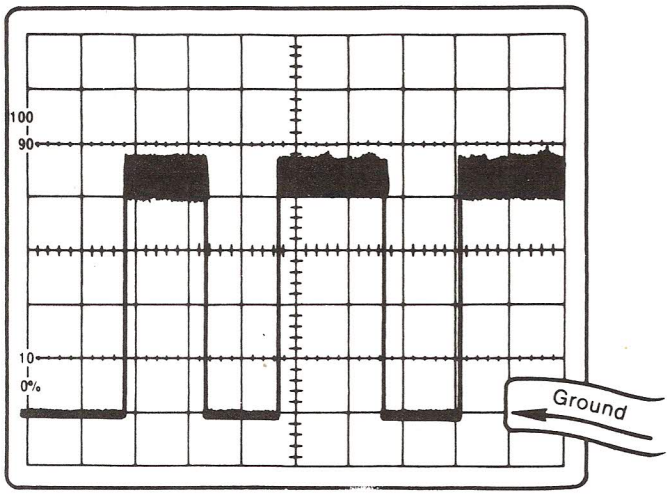
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 50nSec/Div
Frequency — 3.579545 MHz ± 100 Hz



U1:16 — INTERRUPT

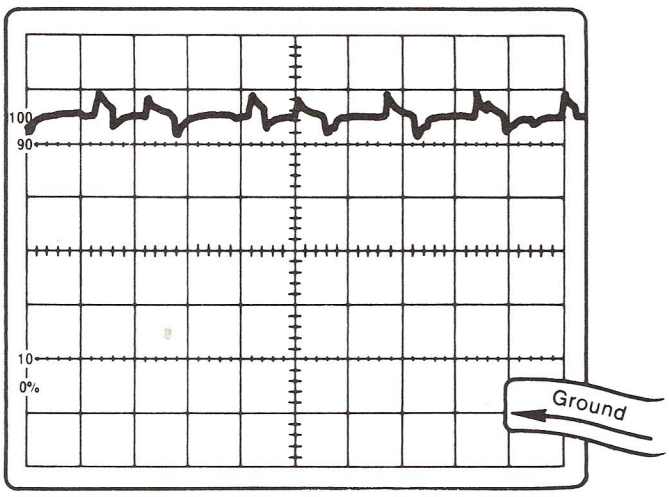
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 0.2μSec/Div

Signal Should Basically Be a 5VDC Level



U1:17 — NMI

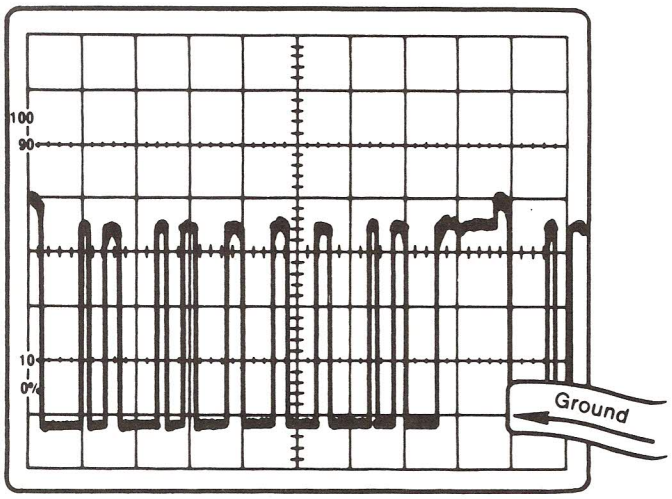
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 0.5mSec/Div



U1:18 — HALT

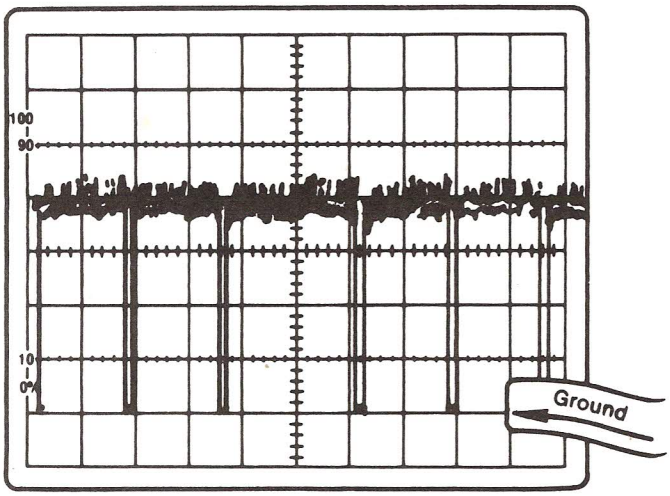
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 0.5mSec/Div

Signal Should Basically Be a 5VDC Level

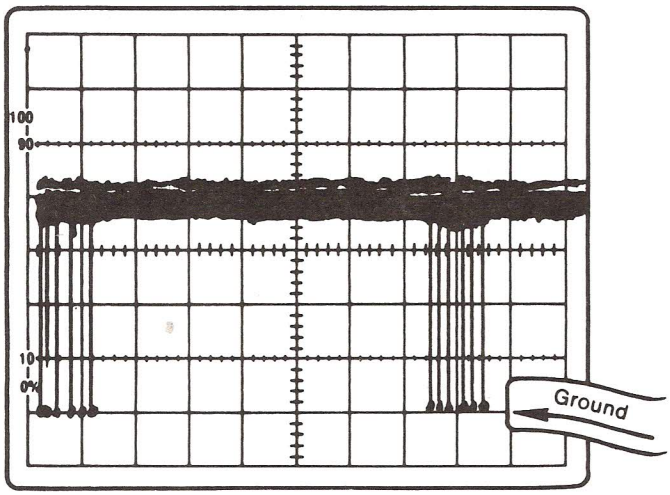


U1:19 M REQ
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 0.1μSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.

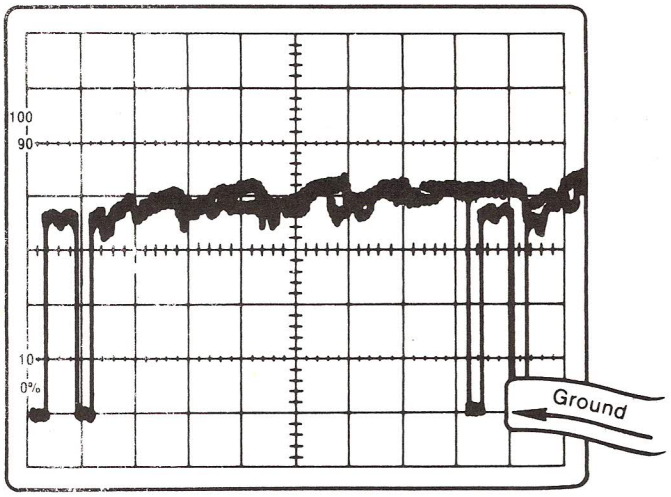


U1:20—IORQ
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 5μSec/Div



U1:20—IORQ
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 50μSec/Div

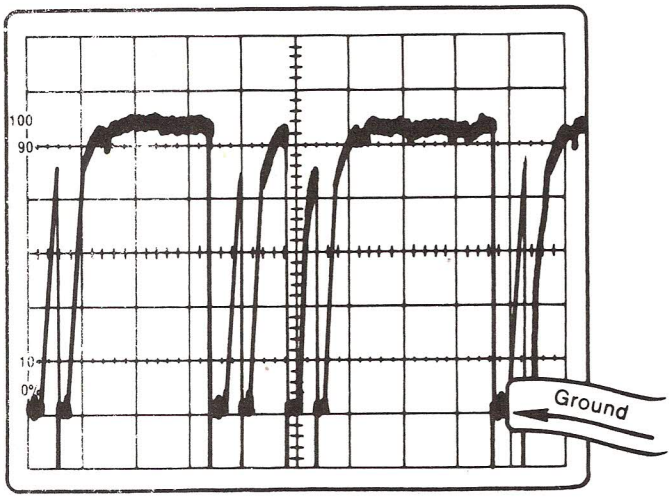
Signal Shown Is During Blue Menu Screen of Game Cartridge.



U1:22 — WR

Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 1μSec/Div

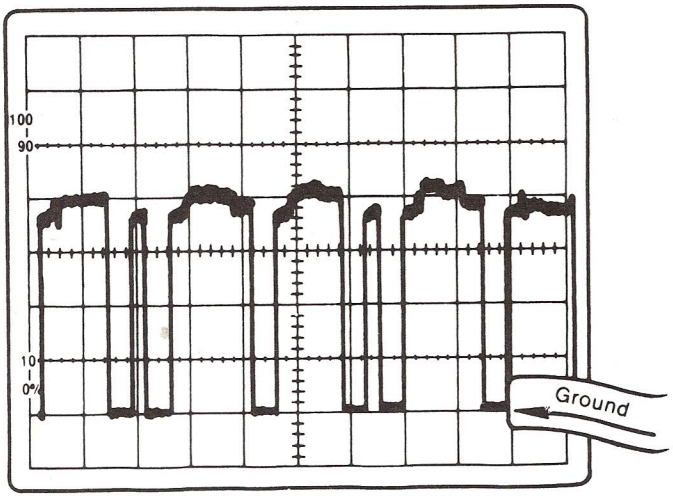
Signal Shown Is During Blue Menu Screen of Game Cartridge.



U1:24 — WAIT

Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 1μSec/Div

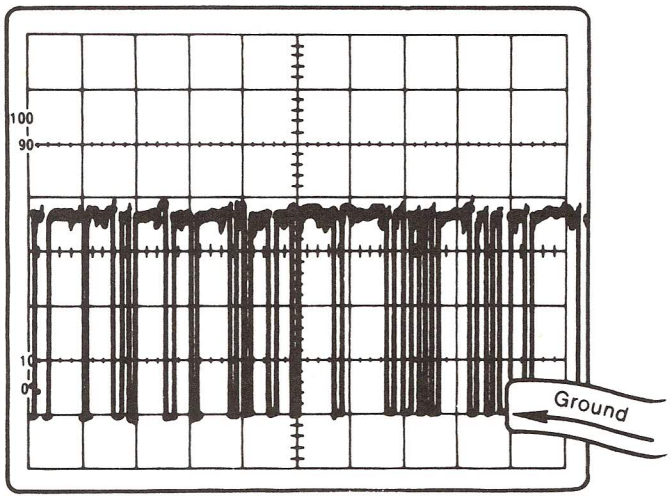
Signal Shown Is During Blue Menu Screen of Game Cartridge.



U1:27 — M1

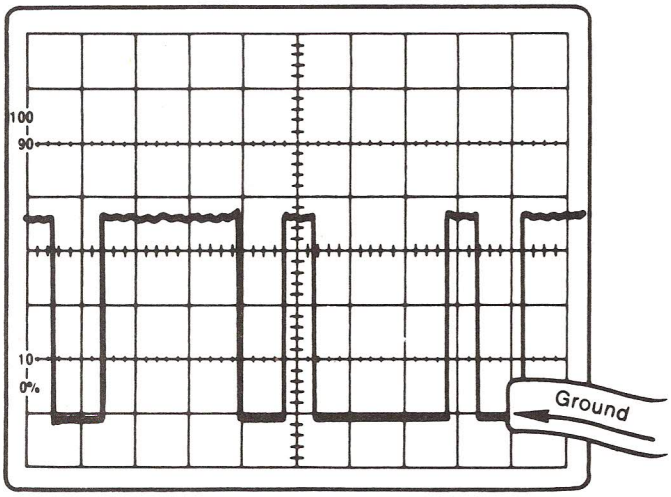
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 2μSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



U1:28 — RSFH

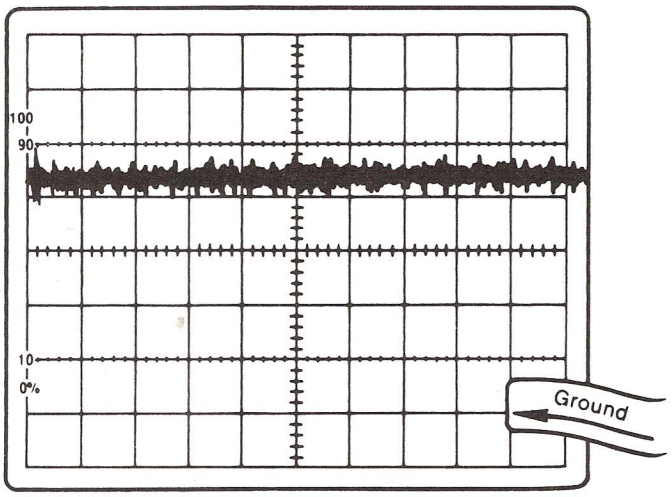
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 5μSec/Div



U1:35 — ADDRESS LINE A5

Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 1μSec/Div

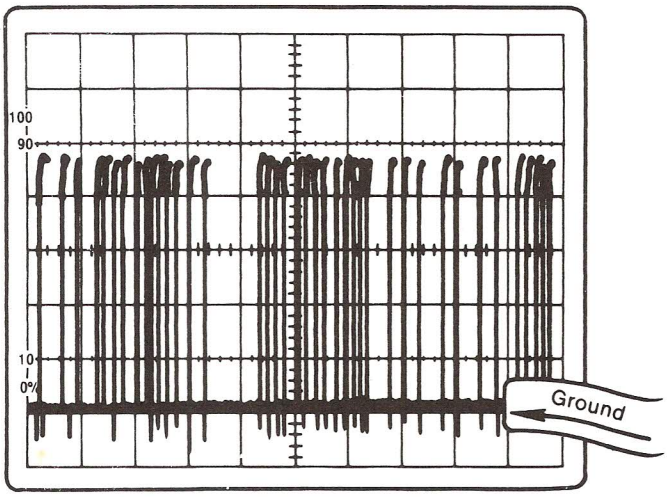
All Address Lines Should Have a Similar Signal (Pulses), If No Pulses Are Seen the Address Line Is Dead. The Signal Shown Is During Blue Menu Screen of Game Cartridge.



U6:5 GATE 2B

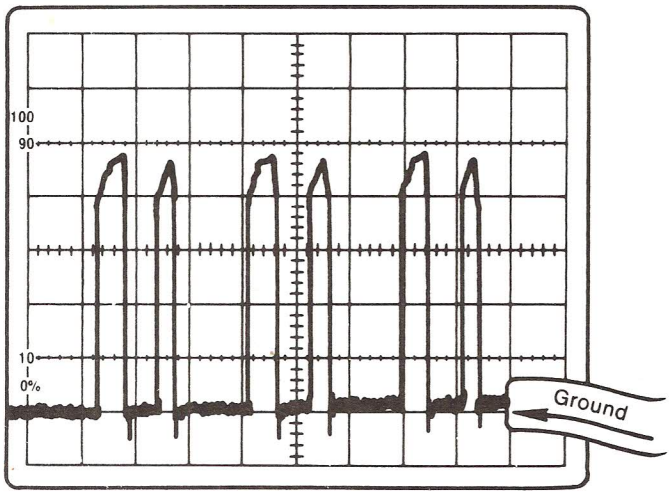
Vertical Sensitivity — 50mV/Div
Horizontal Sensitivity — 0.2μSec/Div

Signal Should Be a DC Level Less Than 250mV.



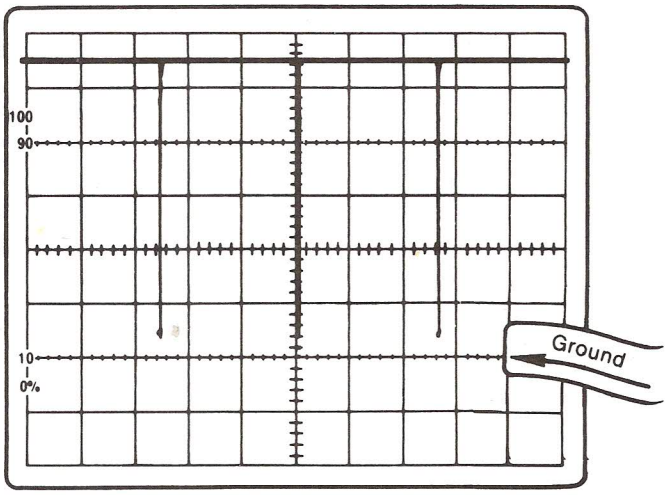
U7:3
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 2μSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



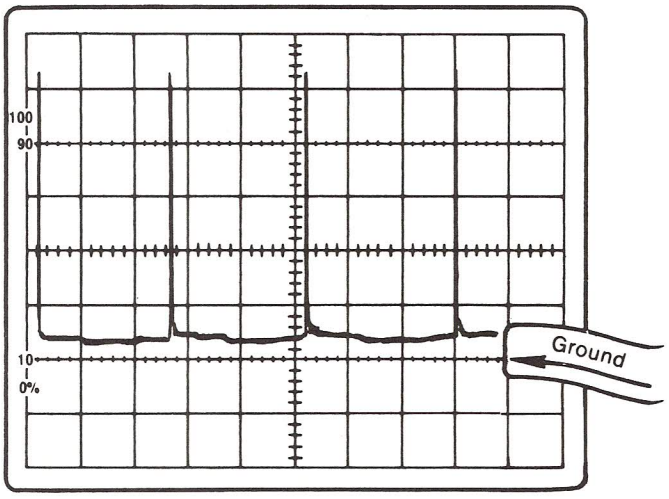
U7:3
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 0.5μSec/Div

Signal Shown Is During Blue Menu Screen of Game Cartridge.



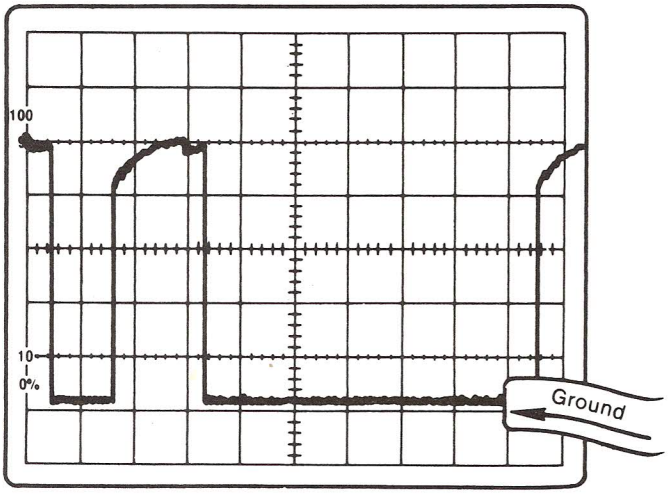
U7:8 INTERRUPT
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity 500μSec/Div

Signal Shown Is with Spinner Interface Tester in Operation.

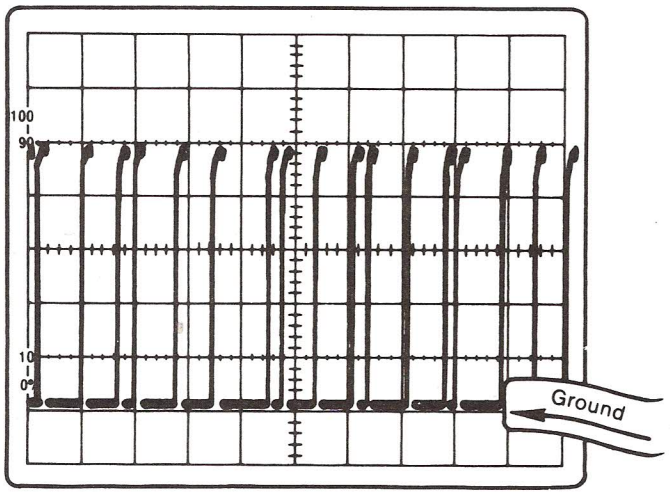


U7:9
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 500μSec/Div

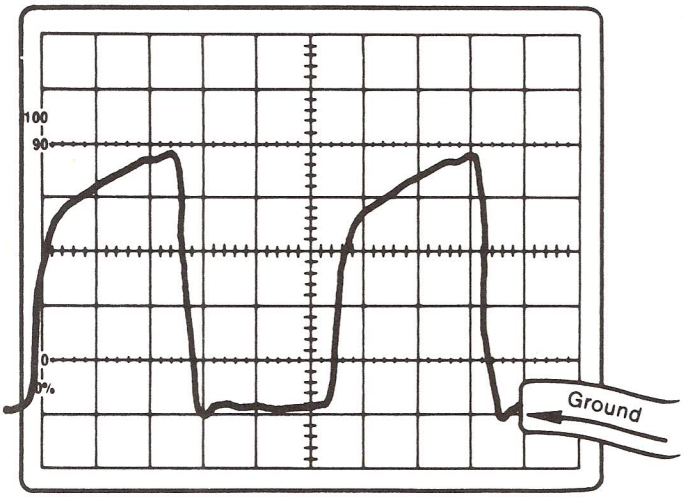
Signal Shown Is with Spinner Interface Tester in Operation



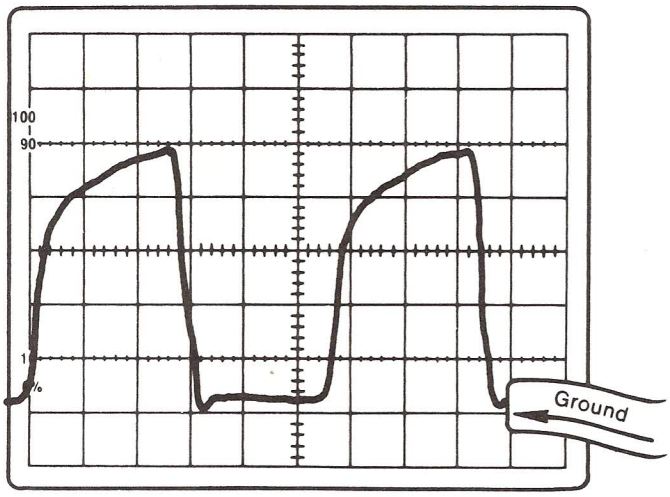
U8:1 M1
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 0.5μSec/Div



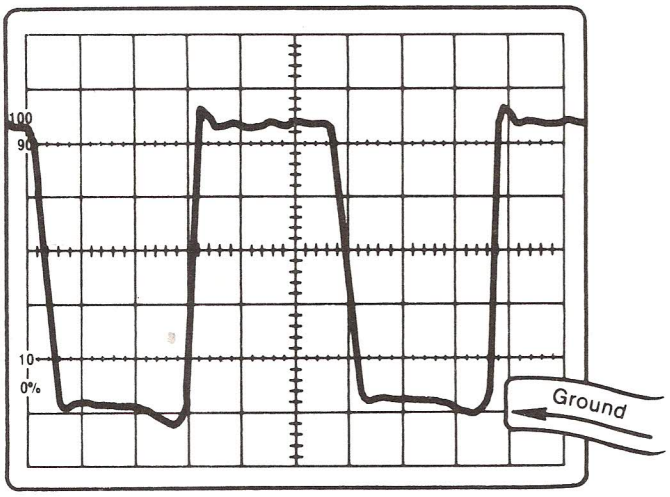
U8:1 M1
Vertical Sensitivity — 1V/Div
Horizontal Sensitivity — 5μSec/Div



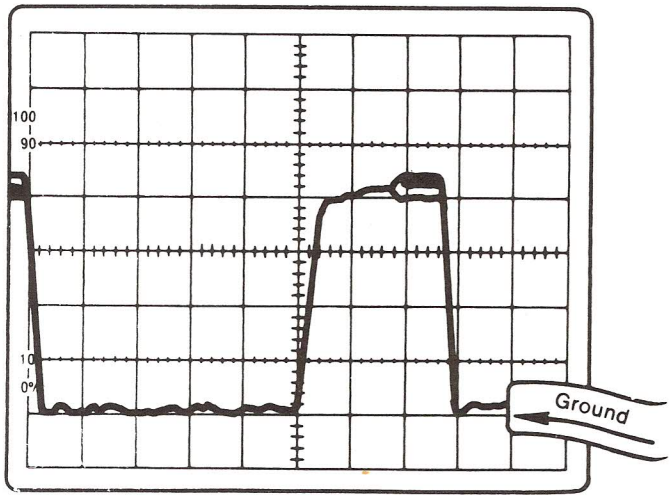
U8:3 3.58 MHz CLOCK
Vertical Sensitivity 1V/Div
Horizontal Sensitivity — 50nSec/Div



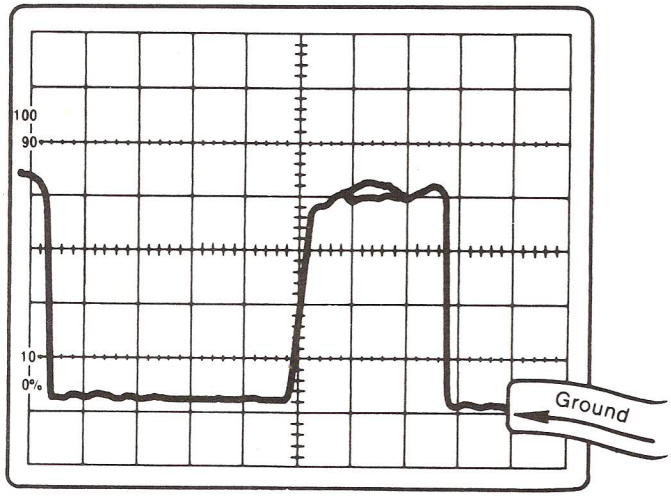
U8:8 3.58 MHz CLOCK
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 50nSec/Div



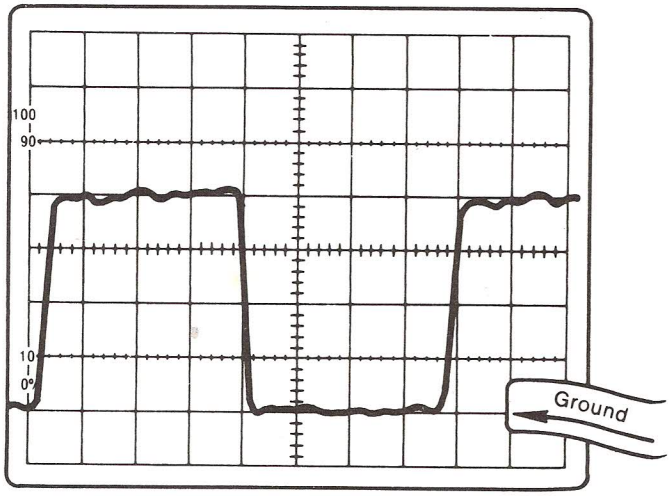
U8:9 3.58 MHz CLOCK
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 50nSec/Div



U9:1 — RAS
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 50nSec/Div

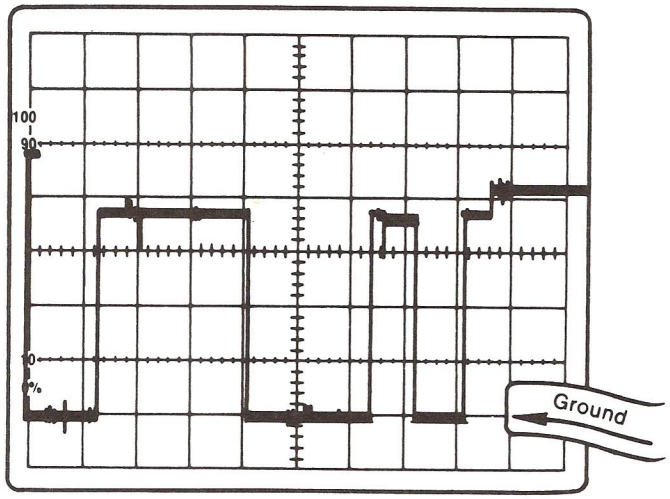


U9:2 — CAS
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 50nSec/Div



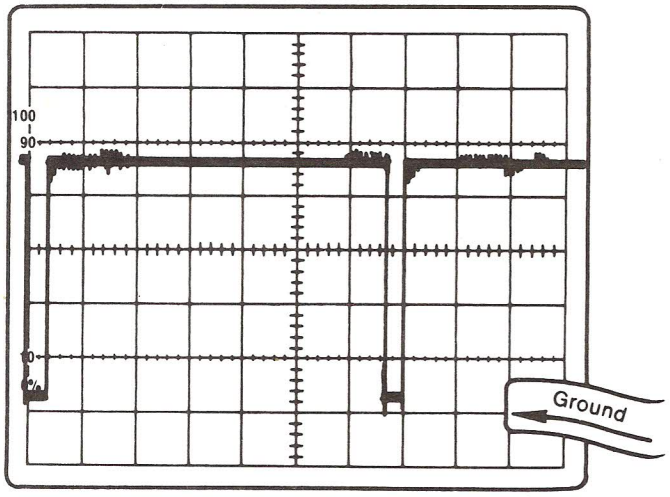
U9:3 — VDP ADDRESS LINE A7
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 50nSec/Div

All VDP Address Lines Should Have Similar Waveforms (Pulses), If No Pulses Are Seen the Address Line Is Dead.



U9:13 — MODE Aϕ

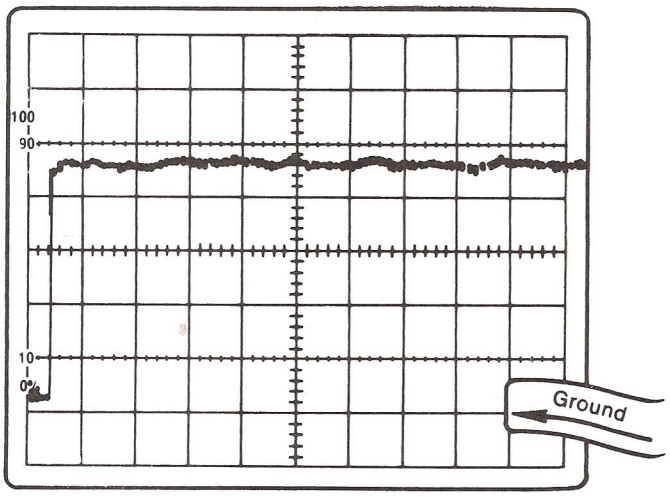
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 0.1μSec/Div



U9:14 — VDP CSW

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 2μSec/Div

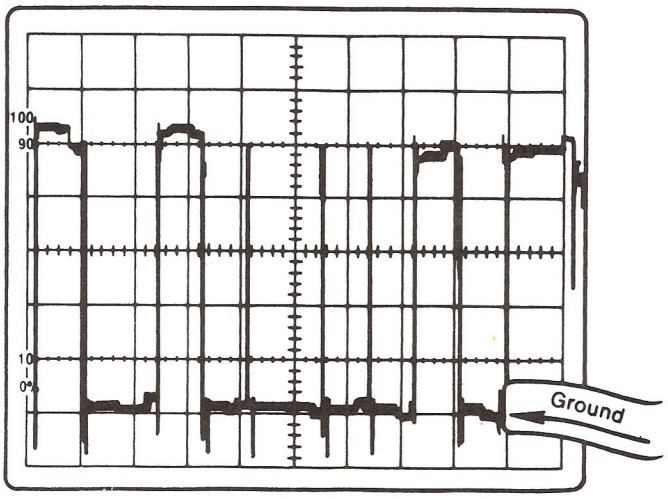
Signal Shown Is Right After the Reset Switch Was Released.



U9:15 — VDP CSR

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 2μSec/Div

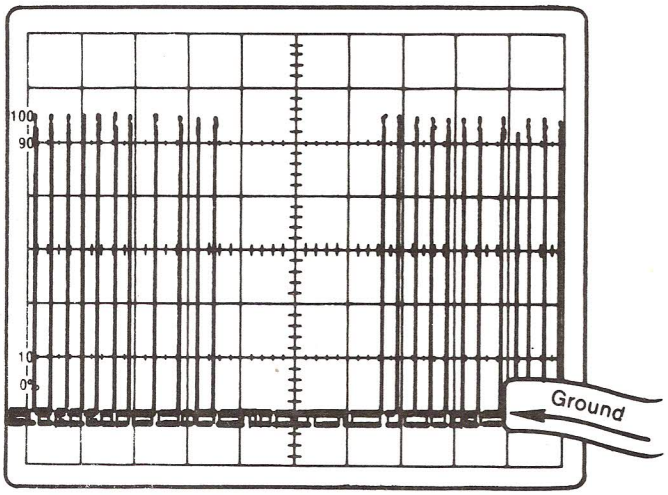
Signal Shown Is During Game Play of a Game Cartridge. The Negative Pulse May or May Not Be Present. Negative Pulses Are Always Present Although Sometimes They Are Too Fast for the Oscilloscope.



U9:17 — DATA LINE D7

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 1μSec/Div

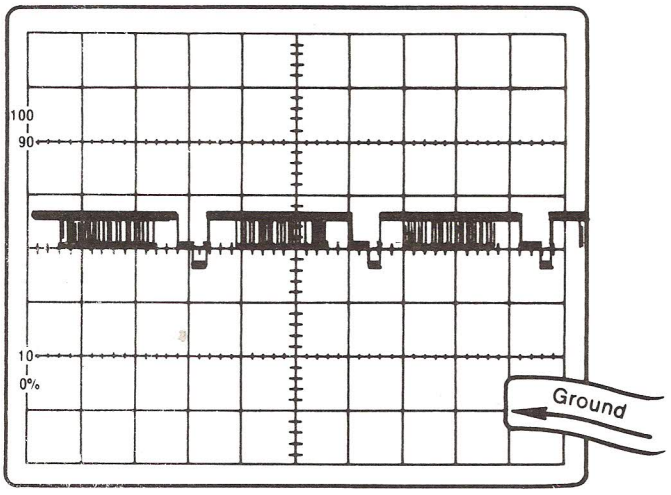
Signal Shown Is During Blue Menu Screen of Game Cartridge. All the Data Lines Should Have a Similar Waveform, If Not, the Data Line Is Dead.



U9:25 — VDP DATA LINE RD7

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 0.1mSec/Div

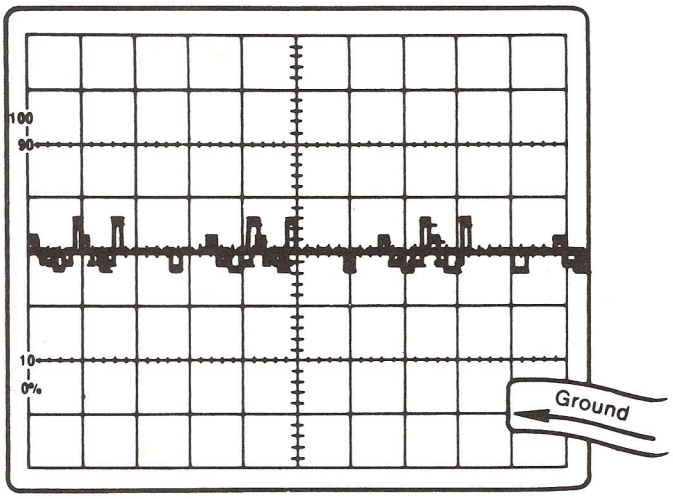
Signal Shown Is During Blue Menu Screen of Game Cartridge. All Data Lines Should Have a Similar Waveform, If Not the Data Line Is Dead.



U9:35 — B-Y VIDEO OUTPUT

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 20μSec/Div

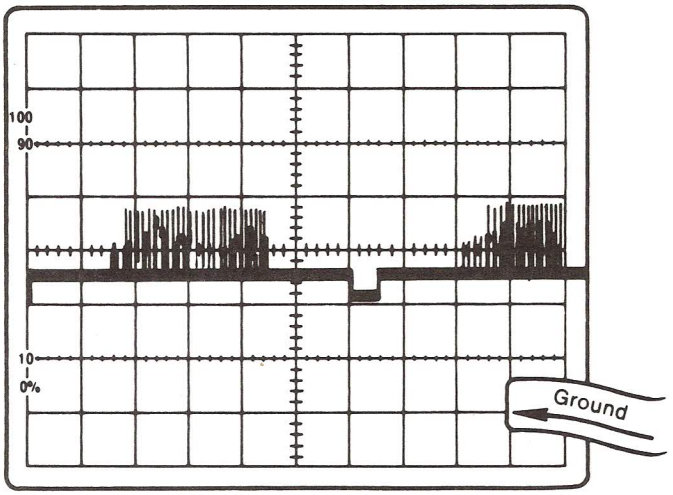
Signal Shown Is During Blue Menu Screen of Game Cartridge.



U9:35 — B-Y VIDEO OUTPUT

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 20μSec/Div

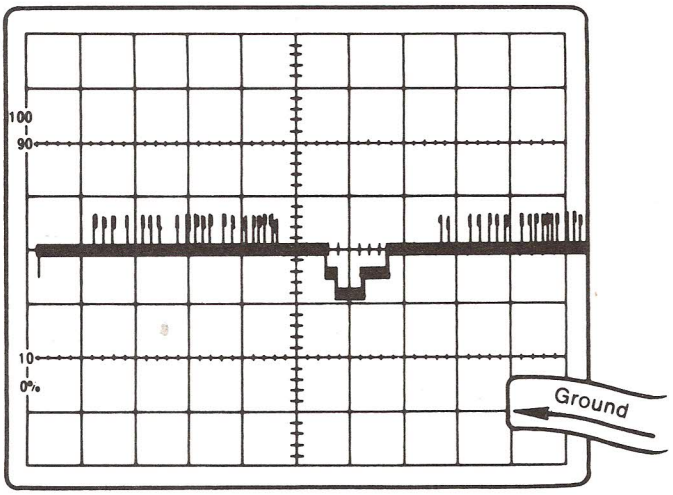
Signal Shown is During "ColecoVision Presents" Screen.



U9:36 — Y VIDEO OUTPUT

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 10μSec/Div

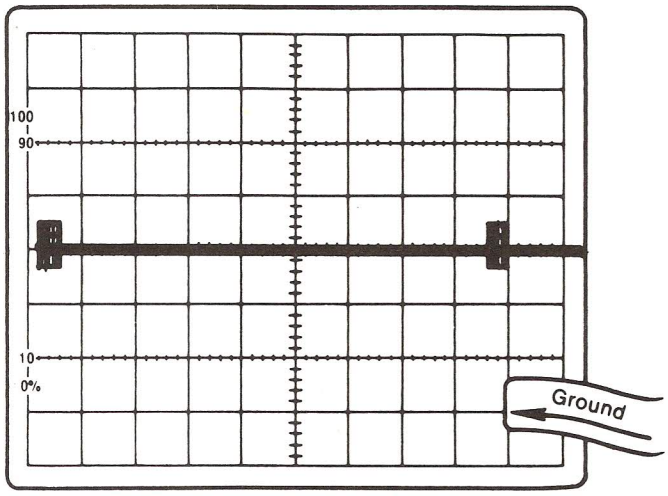
Signal Shown Is During "ColecoVision Presents" Screen.



U9:36 — Y VIDEO OUTPUT

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 10μSec/Div

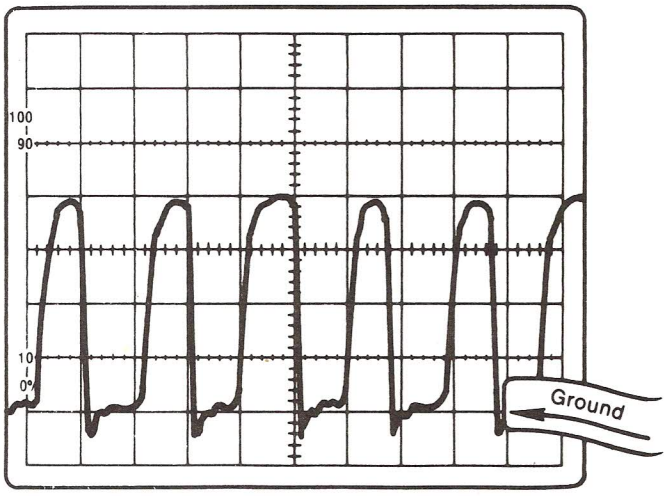
Signal Shown Is During Blue Menu Screen of Game Cartridge.



U9:38 — R-Y VIDEO OUTPUT

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 2mSec/Div

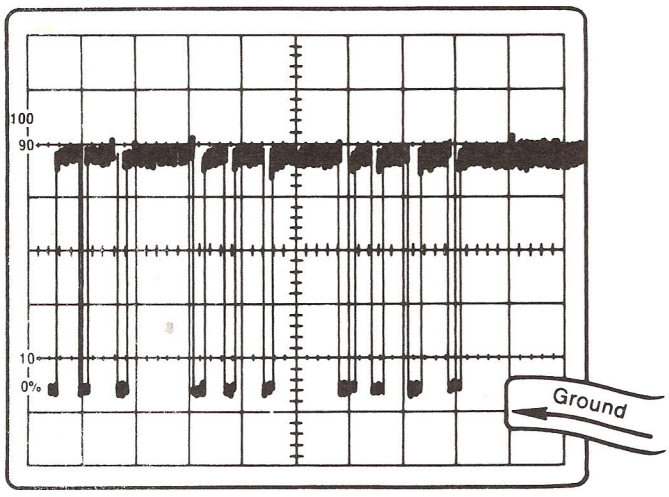
Signal Shown Is During Blue Menu Screen of Game Cartridge.



U9:40—VDP CLOCK

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 50nSec/Div

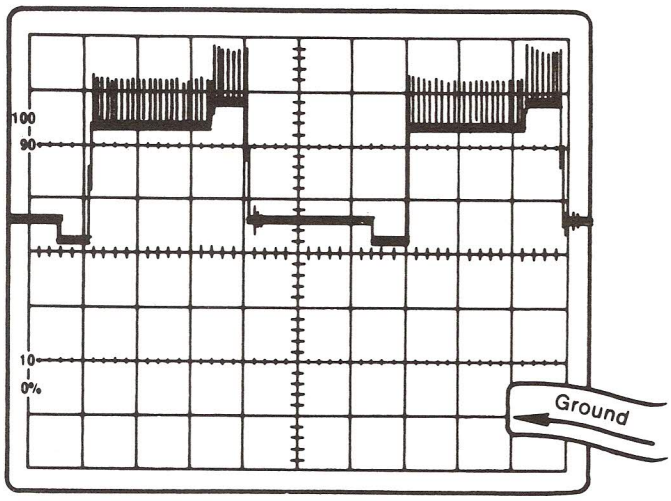
Frequency 10.7MHz



U20:5, 6

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 0.5mSec/Div

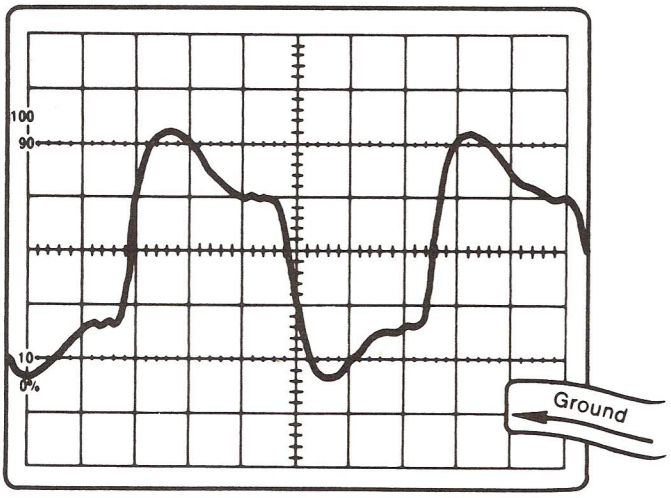
Signal Shown Is During Game Play of a Game Cartridge.



U20:7 — AUDIO OUTPUT

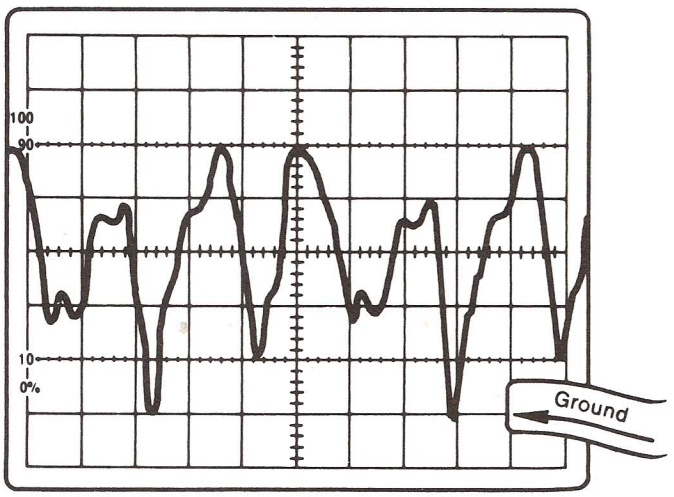
Vertical Sensitivity 0.5V/Div
Horizontal Sensitivity 10mSec/Div

Signal Shown Is During Game Play of a Game Cartridge. This Signal Will Vary Depending on the Sound.



U20:14 — SOUND GENERATOR CLOCK

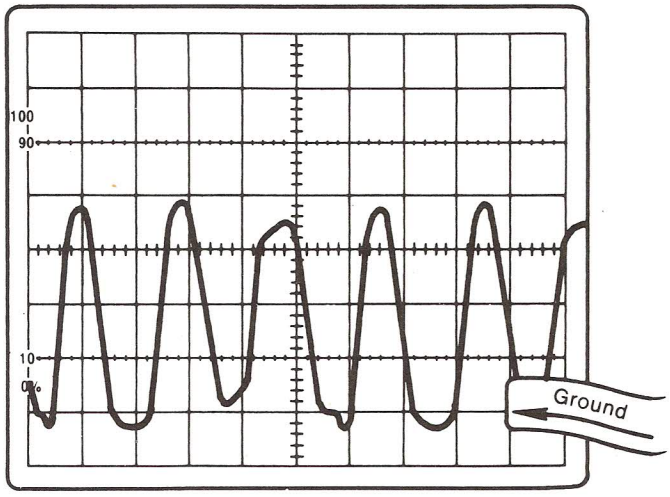
Vertical Sensitivity 0.5V/Div
Horizontal Sensitivity 0.5μSec/Div



U22:1 INPUT TO THIRD HARMONIC WAVE SHAPER

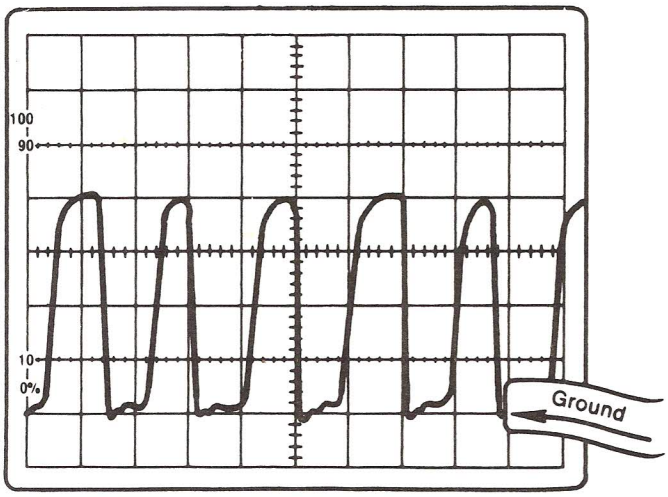
Vertical Sensitivity 0.5V/Div
Horizontal Sensitivity 5μSec/Div

Signal Shown Is with C91 Installed. C91 Is Not in All Revisions. The Waveform Will Vary Slightly with C91 Removed.



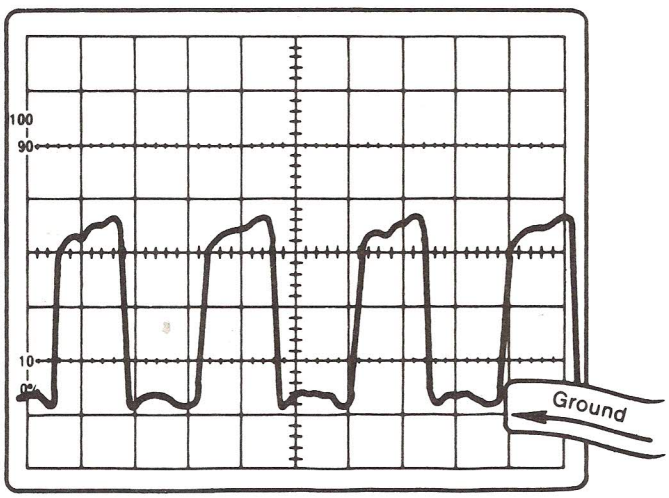
U22:3
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 5μSec/Div

Signal Shown Is with C91 Installed. C91 Is Not in All Revisions. The Waveform Will Vary Slightly with C91 Removed.

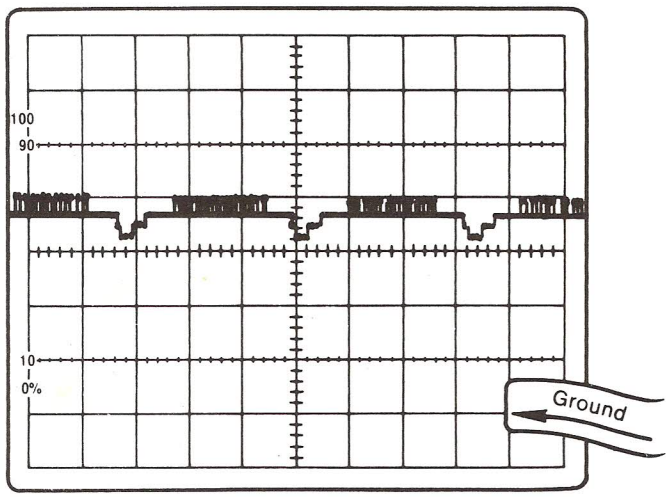


U22:4
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 5μSec/Div

Signal Shown Is with C91 Installed. C91 Is Not in All Revisions. The Waveform Will Vary Slightly with C91 Removed.



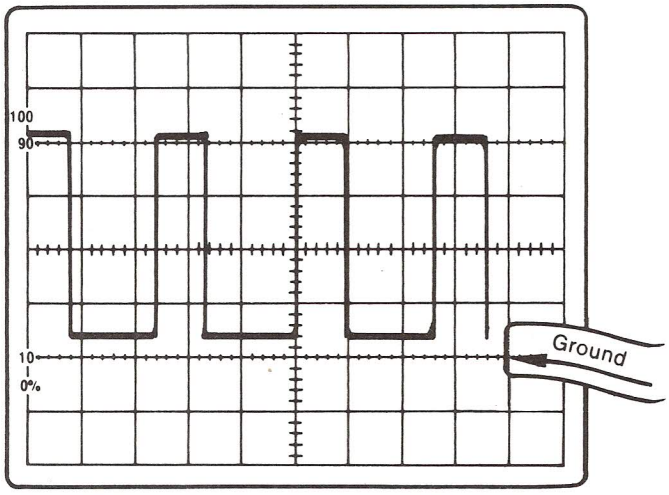
U22:8 7.159 MHz CLOCK
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 5μSec/Div



U23:11 — Y VIDEO

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 0.2mSec/Div

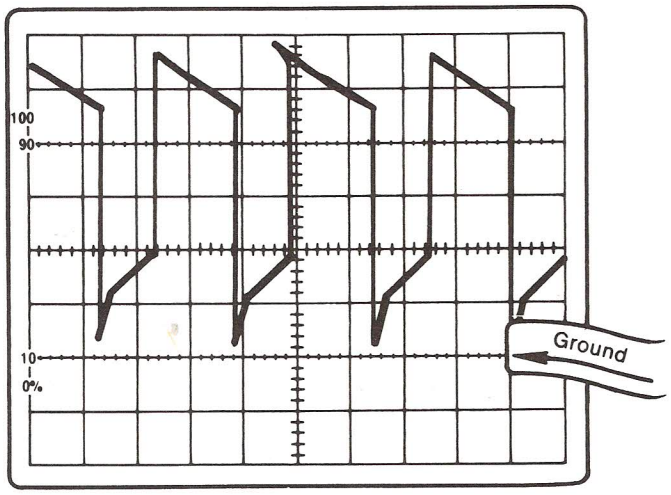
Signal Shown Is During Blue Menu Screen of Game Cartridge.



U24:8

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 500μSec/Div

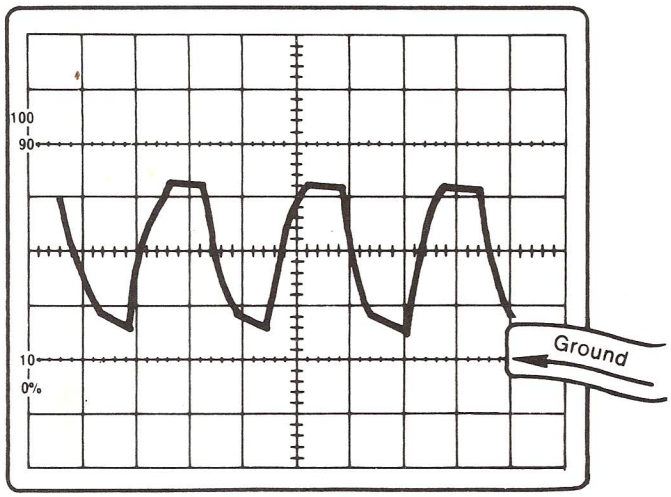
Signal Shown Is with Spinner Interface Tester in Operation.



U24:9

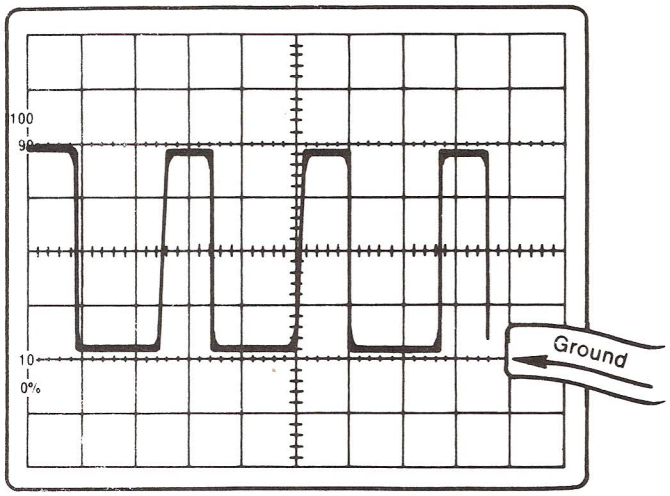
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 500μSec/Div

Signal Shown Is with Spinner Interface Tester in Operation



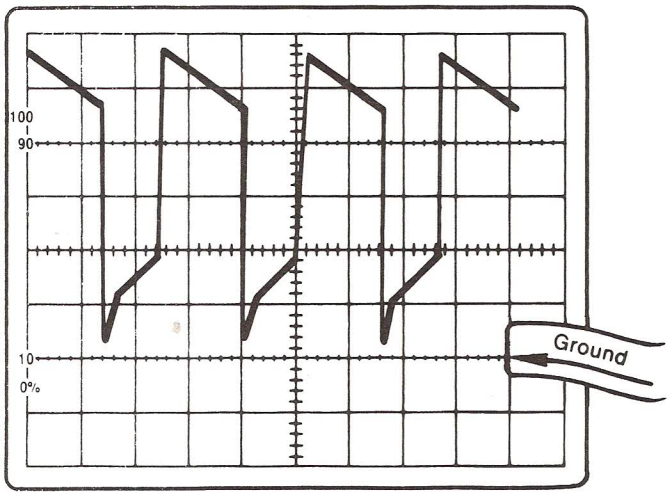
U24:10
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 500μSec/Div

Signal Shown Is with Spinner Interface Tester in Operation



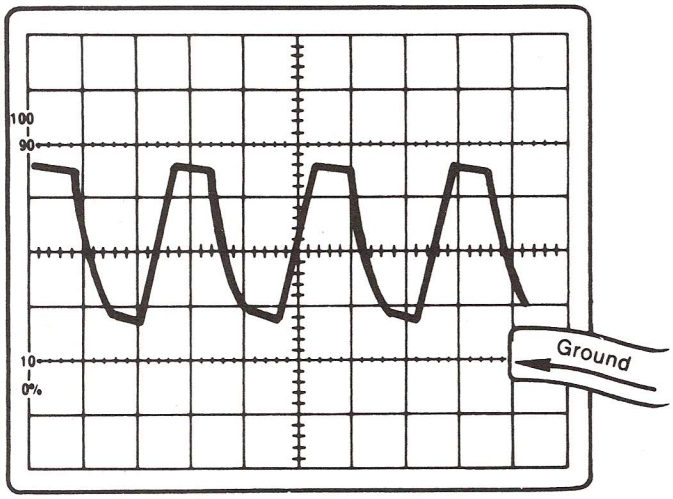
U24:11
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 500μSec/Div

Signal Shown Is with Spinner Interface Tester in Operation



U24:12
Vertical Sensitivity 1V/Div
Horizontal Sensitivity 500μSec/Div

Signal Shown Is with Spinner Interface Tester in Operation



U24:13

Vertical Sensitivity 1V/Div
Horizontal Sensitivity 500μSec/Div

Signal Shown Is with Spinner Interface Tester in Operation.