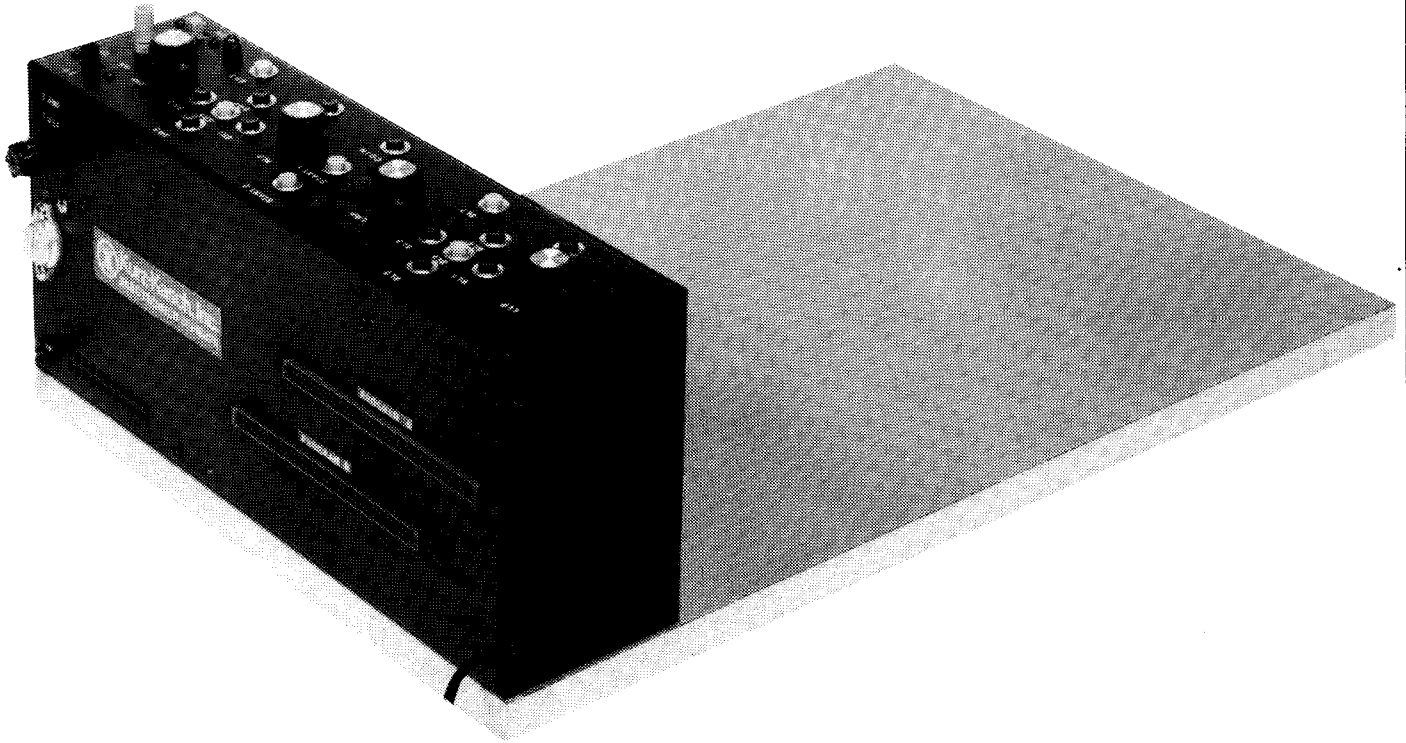


TF-650 TEST FIXTURE FOR DIGITAL BOARDS



The TF-650 was designed to bench simulate the controls and power supplies primarily for digital boards. The technician can now power up any digitally controlled board on his bench. This fixture will aid him in testing and locating the defective device or devices of the computer board.

The TF-650 consists of a work area and a Programmable Control Simulator. The Control Simulator is programmed by insertion of one or two program cards for the board to be tested.

All power required is supplied by internal supplies or program cards.

An internal power transformer supplies AC to the board or 5V DC regulated where the power supply is external to the board.



Kurz-Kasch, Inc.

ELECTRONICS DIVISION

P.O. BOX 1246

2271 ARBOR BLVD.

DAYTON, OHIO 45401

(513) 299-0990

SPECIFICATIONS

Power (internal):	20 VCT @ 5 AMPS 25VCT @ 5 AMPS 5V regulated @ 5 AMPS Additional voltages generated by program cards.
Programs:	2 program ports 200 inputs.
Game Edgeboard:	Up to 25 pin double readout. Replaceable.
Controls:	Human engineered for logical sequencing.
Audio:	Provision on program card for output to external speaker where audio amp is on the board.
Video:	Standard video output to your monitor via 6' shielded cable.
Finish:	Control simulator — black anodize with white control identification lettering. Work area — formica covered pressboard.
AC input:	110V, 60 HZ (optional 220VAC 50/60HZ).

Specifications subject to change.



Kurz-Kasch, Inc.

ELECTRONICS DIVISION

For More Information:

CARD #	PRICE	ADD'L CARDS NEEDED	GAME	MANUFACTURER
311ADEF	475.		Gottlieb/MPU	Gottlieb
312ADE	395.		Game Plan/MPU	Game Plan
313ABC	60.		Head-On	Gremlin
314AC	50.		Crash	Exidy
321A	70.		Star Fire	Exidy
322AB	65.	171C or 287C	Asteroids/	Atari
			Super Asteroids	
325AD	170.		Game Plan/Driver Bd.	Game Plan
326AB	45.	171C or 287C	Galaxian	Midway
327A	60.		Williams/Sound Bd/	Williams
			Gorgar	
328DEFG	305.		Gottlieb Pin	Gottlieb
			Systems 80	
329A	45.		Gottlieb Pin	Gottlieb
			Systems 80/Sound	
330DEF	205.		Gottlieb Pin	Gottlieb
			Systems 80/Driver	
331A	35.		Bally/New Sound Bd/	Bally
			#AS-2518-51	
332AB	80.		Extra Bases	Midway
333AB	60.	171C or 287C	Targ	Exidy-Taito-Centuri
334A	75.		Lunar Rescue &	Taito
			Space Invaders/	
			(less audio)	
335A	75.		Astro Fighter	Gremlin
336AB	80.	171C or 287C	Missile Command	Atari
337A	60.	185B/222C	Space Encounters	Midway
338A	95.		Poker Machine	Intermark
339A	40.	332B	Space Zap	Midway
340A	60.		Eagle	Centuri
341A	55.		Carnival	Gremlin
			Head-On II	
			Invinco	
342A	65.		Bandido/Video	Exidy
342B	65.	342A	Bandido/Audio	Exidy
343AB	35.	171C	Moon Cresta	Gremlin
344AB	95.		Draw Poker	Electro Sport
345AB	50.	171C or 287C	Pac Man	Midway
346A	65.		Rally X	Midway
348AB	75.	171C or 287C	Battlezone	Atari
*349B			Mad Alien/Mad Rider	Deco
*350			Strato Vox	Taito
351A	45.	332B	Gorf	Midway
352A	35.		Atari Audio/	
			Regulator Board	
353A	65.		Space Firebird	Gremlin
354A	65.		The End	Stern
355A	55.		Phoenix/Pleides	Centuri
*356B			Quasar	U.S. Billiards
357	35.		Bezerk Opto Board/	
			PRU1000	Stern
			Gorf Opto Board/	
			A0000	Midway
*358A			Space Firebird	Nintendo
359A	60.		Defender	Williams
*360A			Rolling Crash/	
			Moon Base	Games Ltd/Nichibutsu
*361A			Moon Alien	Games Ltd/Nichibutsu
362A	45.	332B	Wizard of Wor	Midway
363A	115.		Astro Blaster	Gremlin/Sega
364ABC	75.		Route 16	Centuri
365A	60.		Scramble/Super Cobra	Stern
366A	65.		Crazy Climber	Nichibutsu
*367D		308AEF	Williams MPU	Williams
368A	65.		Omega Race	Midway
369A	75.		Colony 7	Taito
370AB	80.	171C	Centipede	Atari
*371AB		171C	Red Baron	Atari
*372A			Polaris	Taito
*373			Spector	Exidy
*374			Galaga	Midway
*375			Tempest	Atari
*376			Frogger	Gremlin
*377			Donkey Kong	Nintendo
*378			Qix	Taito
*379			Vanguard	Centuri
*380			Venture	Exidy
*381			Make Trax	Williams

CARD #	PRICE	ADD'L CARDS NEEDED	GAME	MANUFACTURER
PIN BALL				
270BC	\$95.		Bally/Stern/Power	
			Supply/Read Out	
271A	45.	270BC	Bally/Stern/Display	
273A	90.	270BC	Bally/Stern/Volt Reg.	
274AE	105.		Bally/Stern/MPU Bd.	
274D	205.	274AE	Bally/Stern/MPU Display	
275A	130.	270C	Bally/Stern/Lamp Driver	
308ADEF	605.		Williams/MPU	
311ADEF	475.		Gottlieb/MPU	
312ADEF	395.		Game Plan/MPU	
325AD	170.		Game Plan/Lamp Driver Board	
327A	60.		Williams/Sound Board/Gorgar	
328DEFG	305.		Gottlieb Pin Systems 80	
329A	45.		Gottlieb Pin Sound System 80	
330DEF	205.		Gottlieb Pin Driver System 80	
331A	35.		Bally/New Sound Board	
			#AS-2518-51	
			(old) Gottlieb Pinball Test Prom	
*367D	30.	308AEF	Williams MPU	
Do you want these? Let us know...				
			Pulsar	Gremlin
			Space Odyssey	Gremlin
			Astro Invader	Gremlin
			Space Fury	Gremlin
			War Lord	Atari
			Warp Warp	Rockola
			Cosmic Avenger	Universal
			Zarzon	Taito
			Moon Shuttle	Nichibutsu
			Super Tank	Computran
			King & Balloon	Game Plan
			Red Alert	GDI
			Piranha	U.S. Billiards
			Star Gate	Williams
			Turtles	Stern
CARD #	PRICE			
Additional Cards which are required				
132A	\$50.			
171C	30.			
182A	50.			
185C	30.			
185A	50.			
185B	35.			
185BC	55.			
193B	40.			
204DE	40.			
222C	30.			
265C	50.			
332B	40.			

CARD #	PRICE	ADD'L CARDS NEEDED	GAME
JUKE BOXES			
193ABC	\$110.		Rowe/AMI/Credit Computer
203AC	130.	193B/204DE	Rowe/AMI/Memory
204ACDE	170.	193B	Rowe/AMI/Selector
300ABCDEF	475.		Rockola/All Functions/ Credit Bd.
301A			Popularity Board
302C			Logic Mech. Bd.
TF-650 & ACCESSORIES			
TF-650-5C	Test Fixture	110/220V 50-60 HZ	\$610.00
1000ABC	Diagnostic Board	to check TF-650	65.00
	50-pin internal extender assembly....C-connector		20.00
	50-pin game board connector....C-connector		15.00
	100-pin program card connector...."BIG GREEN"		20.00
	50-conductor game board.. "C" connector extender cable 12" long		35.00
SIGNATURE II, ROM TEST 1 & ACCESSORIES			
	Signature II--Signature Analyzer		\$750.00
	Ram Test Prom for Midway Mother Board		45.00
	NOP6502A---Atari Compatible		45.00
	NOP6800		45.00
	NOP8080		45.00
	NOP280		45.00
	NOP6802/08		45.00
	Rom Test I		260.00
	Rom Test I Test Card (77PU)		35.00
	Personality Boards for Rom Test I (see below)		35.00 ea.
	2708/H24	82S126/A16	6350,51/C18
	T12716/J24	82S123/D16	82S114/D24
	2716/I24	82S137/A18	TMM332
	6341/E24	TMS2532/L24	2732/M24
	9316	27S80,81	Test Card (77PU)
	Universal	9332/9364	TMS2532/L24M
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Kurz-Kasch regrets that it is unable to furnish schematics for games due to non-disclosure agreements with various manufacturers.			
Prices are subject to change...			
*Contact factory for pricing.			
Add'l cards are at extra charge.			