

CHANNEL SWITCH

155-0022-00
155-0022-01 M036E

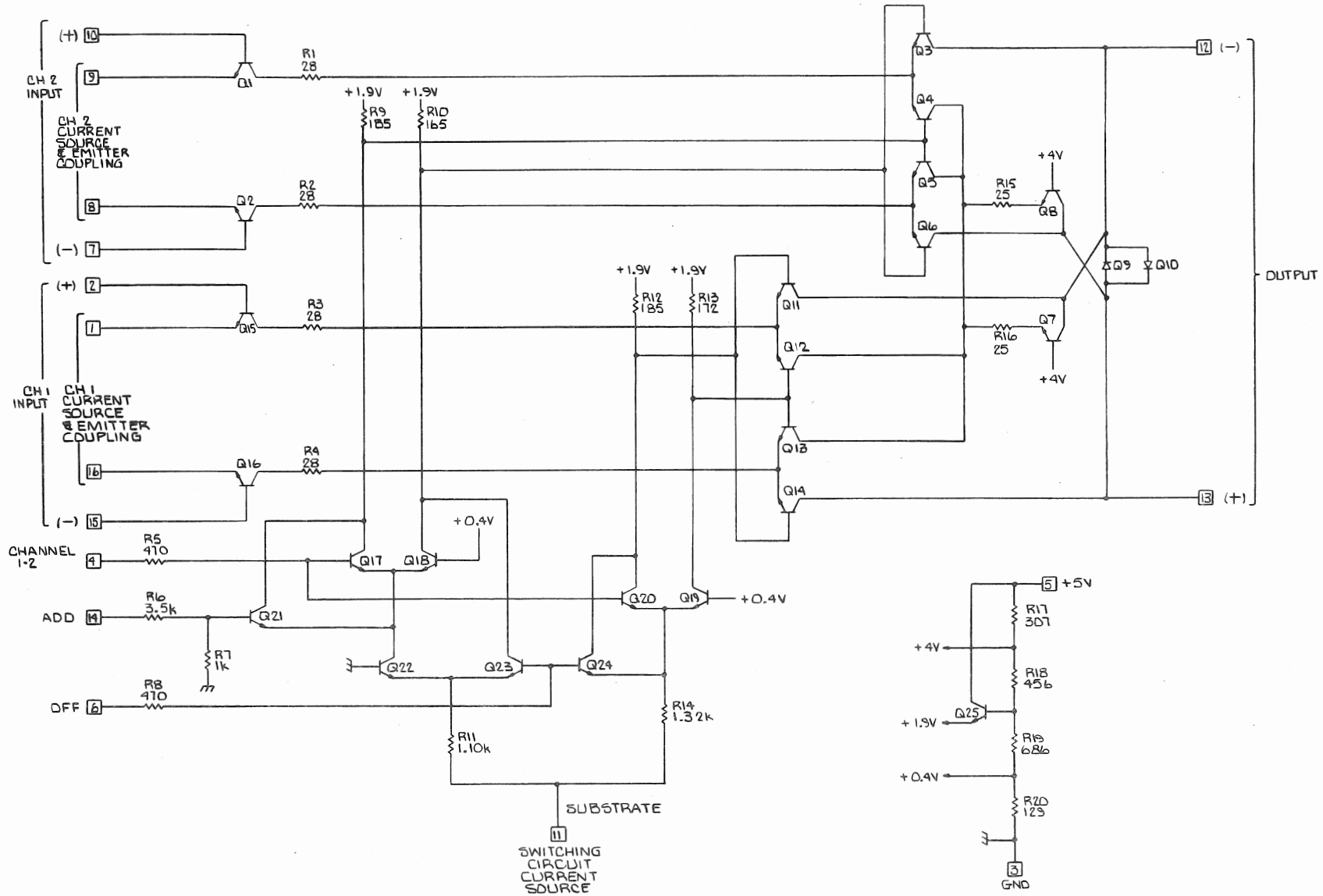
DESCRIPTION

This Integrated Circuit selects one or mixes two input analog signals in response to a digital input. In its simple application, it is double-pole, double-throw selector of one of two balance input signals. Its more sophisticated role is in providing signal steering in dual-trace vertical and horizontal amplifiers.

It is designed for two balanced input signals of 25 mV/division per side into 50 Ω per side (0.5 mA/division). The 50 Ω terminations to ground are external to the package. A current gain of "1" is intended. The gain setting resistors are external to the package. Total dynamic range is ± 15 divisions (± 7.5 mA).

The switch output is at or slightly above a +5 volt DC level. It is a current output into a resistance of 50 Ω per side. Side-to-side diodes are included inside the circuit for limiting the differential voltage swing of the output. The risetime of the switch is approximately 1 ns.

The CH1-CH2 input selects one or the other channel, and permits high speed switching between the two inputs for "CHOPPED" or "ALTERNATE" operation at frequencies up to 1 MHz or greater. The OFF input turns both inputs "off". The ADD input turns both inputs "on". The common mode current output of the signal channel is maintained and constant for the various modes.



ENGR	<i>Einar Traa</i>	10-24-74	PROCESS	50/450 Ω /O
DWN BY	<i>Pam Chernie</i>	10-23-74	PACKAGE	16 PIM DIP
CHK BY	<i>Adrian</i>	11-7-74	DIE SIZE	40 mil x 50 mil
TYPE	MONOLITHIC	CHANNEL SWITCH		M036E
INTEGRATED CIRCUIT ENG/MFG TEKTRONIX, INC. BEAVERTON, OREGON, U.S.A.				PART NO. 155-0022-00

CHANNEL SWITCH

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M036E (continued)

CHARACTERISTICS

Low Frequency α	0.94 Minimum
Output Impedance	>100 K Ω Nominal
Output Current Swing	. . . . .	\pm 7.5 mA Maximum
Input Capacitance Each Side	. . . . .	2.3 pF Nominal
Output Capacitance Each Side	. . . . .	5.2 pF Nominal
Switching Time	. . . . .	20 ns Maximum
Signal Risetime: $R_s = 100 R_e = 82 R_L < 50$.	. . . . .	1.0 ns Maximum
Differential DC Offset Between Modes:	. . . . .	20 mV Maximum
Gain Difference Between Modes: $A_I = 1$		
Output Current Swing.	. . . . .	0.5% Maximum, $< \pm 2.5$ mA
Low Frequency Opposite Channel Isolation	. . . . .	750:1 Minimum, $F < 10$ kc
100 MHz Opposite Channel Isolation	. . . . .	100:1 Nominal

Other characteristics are described in the listing of the terminals.

PROCESS 50/450

POWER SUPPLY. +5 Volts, Ground

PACKAGE 16 DIP

DESIGNER Gene Andrews

INSTRUMENT USAGE	7603K	7603H	7603G
	7603N11S	R7603	1430
	147	148	7313
	7603	7613	5A38
	4503	335K	1461
	1441	7704A	7912
	5403	7903	7403
	7D12	7844	5441
	7D11	5440	7504
	7514	R7704	P7001
	7704A	5443	7A18
	7623A	149	5443
	7A18	7904	7633
	A7704	7012	