

**DRAW POKER**

**HIGH - LOW      DOUBLE - UP**

**FEATURES & OPTIONS**

<u>WIN TYPE</u>	<u>Brief Description &amp; Payoff</u>
<u>ROYAL FLUSH:</u>	5 cards of the same suit including; 10, J, Q, K, A. Payoff: 100 skill points per point bet.
<u>STRAIGHT FLUSH:</u>	5 cards of the same suit in series, any order. Payoff: 50 skill points per point bet.
<u>FOUR OF A KIND:</u>	4 cards of the same pip value. Payoff: 25 skill points per point bet.
<u>FULL HOUSE:</u>	3 cards of one pip value plus a pair of another. Payoff: 10 skill points per point bet.
<u>FLUSH:</u>	5 cards of the same suit (any pip value). Payoff: 8 skill points per point bet.
<u>STRAIGHT:</u>	5 cards in series, any combination of suits, any order Payoff: 5 skill points per point bet.
<u>THREE OF A KIND:</u>	3 cards of the same pip value. Payoff: 3 skill points per point bet.
<u>TWO PAIR:</u>	2 cards of one pip value plus 2 cards of another. Payoff: 2 skill points per point bet.
* <u>ONE PAIR:</u>	2 cards of the same pip value. In standard play the minimum winning pair is aces. Payoff: 1 skill point per point bet.

\* Minimum winning pairs can be varied, see option switch deliniation chart.

The object of the game is to get specific combinations of cards to be credited with a win. Winning combinations and payoffs are defined on the front panel of the machines as well as on an enclosed list. There are thirteen cards of each of four suits for a total of fiftytwo cards. ( 2 wild jokers can be added via the option switches). The cards are constantly reshuffled electronically, therefore it is possible to draw a card which has just been discarded. The pip value of the cards are 2 through king, with the ace counting as either the low card or the high card, depending on situational need. The suits are: Hearts, Spades, Diamonds and Clubs.

DESCRIPTION OF PLAY - STANDARD

The player deposits a coin or coins, (whose value and maximum number are determined by equipment), which are added to the credit counter. The player may then wager part of, or all of these credits by depressing the "Play Credits" switch once for each credit he wishes to bet on a hand. (Limit determined by equipment-standard limit is 30 per hand). To begin play, the "Deal" switch must then be depressed. The player is dealt five cards, face up. If any or all of the cards are winning combinations, the display will advise accordingly. Should the player elect to keep the original five cards dealt, he must depress the "Stand" switch.

If the player wishes to replace any or all of the original cards, he must depress the correlating "Discard" switch on the panel. Rejected cards can be restored by depressing the "Cancel Discard" switch if a wrong card has been discarded or if the player changes his mind. When "Cancel Discard" is pressed all discarded cards are restored. When the player has completed the rejection of unwanted cards, he then must depress the "Draw" switch. The rejected cards are

replaced with others. (Note: option switches can be set to allow either a 5 card discard or limit the discards to 3, see attached chart).

If the player hits a winning combination, the display reads "winner" and defines the type. The points won are credited to the credit counter, where they can subsequently be bet on following games.

If the player loses, "Game Over" is displayed on the monitor. Further games may be played by using accumulated credits or by depositing coins for credits.

When the game is not in a playing mode there is a running advertisement in the program. It is displayed until a coin is deposited.

The High-Low Double-Up Game presents the players with an opportunity to double their winnings whenever they have a winning hand on regular play.

When a winning hand is dealt the display reads the amount won and offers the players the option of doubling their winnings by pressing the deal button or declining by pressing the stand button. There is only all or nothing play.

If a player elects to stand, the amount won is credited.

If a player elects to play High-Low Double-Up, a card is dealt face down and the player must select whether the card is low or high. Low cards are 2 thru 7. High cards are 9 thru Ace. An 8 is always a loser. The display directs the player which button to press for either a high or low selection.

If the player selects wrong the full amount of the bet is lost and the game returns to the regular draw poker playing mode.

If the player selects correctly the winnings are doubled and the player is again offered the opportunity to play High-Low Double-Up. This format continues until either the player declines, by pressing "Stand" or loses by a wrong selection; in either case at the end of Double-Up play the game returns automatically to the regular draw poker mode. See supplement for "FLASH" option.

STANDARD FEATURES

MODE CONFIGURATION-STANDARD: CREDIT BET - CREDIT BUILD - UP

Unless requested otherwise, all games are factory-set in the credit bet- credit build-up mode. In this mode, coins deposited are added to the credit counter.

## STANDARD FEATURES

Portions of these credits can then be bet via the "Play Credits" switch, up to a maximum of thirty per hand. Winnings, if any, are added back into the credit counter where they can be subsequently bet on the following hands.

See options section for description of other mode configurations.

## T. V. MONITOR

Each game has a color monitor as standard equipment. A black and white monitor is optional.

## MEMORY MODULE

The games are equipped with a battery operated memory module to prevent lose of data in case of brief power outages or fluctuations.

The module plugs into the main printed circuit board and can easily be removed for replacement. The game is inoperative when the module is removed.

To prevent damage to the main circuit board, as well as the module, the power must be turned off, power plug removed, before attempting removal.

## Operational States

The Draw Poker Games can be set in many possible operational States by setting a specific combination of switches located on the printed circuit board.

The deliniation and effect are outlined on a enclosed chart. Using the chart as a guide, one can select the particular traits desired and set the game accordingly.

The manufacturer presets games to the 80% Dynamic Operational State.

## Dip Switches

The printed circuit board assembly features an 8. Position toggle dip switch package at the U30 Position. The combination of settings are deliniated on the next page. To change toggle positions of the switch assembly, one need not remove the printed circuit board. The switch assembly is easily accessible when the circuit board is mounted in place.

## STANDARD FEATURES

A switch is "ON" when the rocker is depressed toward the left edge of the assembly. Most switch assemblies are numbered along the left edge, however, a few may indicate the "ON" position by a plus mark (+) or the word "ON". In any case, if the board is mounted in the unit with the edge connector toward the top, the "ON" position of the switches is always to the left.

A switch is always "OFF" when the rocker is depressed toward the right edge of the assembly.

OPTION SWITCH DELINIATION FOR POKER

SWITCH NUMBERS								KEY: U30 = 8 POSITION DIP SWITCH PACKAGE.
1	2	3	4	5	6	7	8	0 = ON = DEPRESSED TOWARD "NUMBERED" SIDE 1 = OFF = DEPRESSED TOWARD "OPEN" SIDE.
↓	↓	↓	↓	↓	↓	↓	↓	EFFECT
0								MANUAL TEST POSITION.
1								NORMAL OPERATIONAL POSITION.
1	1	1						STANDARD - NO WILD JOKERS.
1	1	0						WILD JOKERS WHEN 8 OR MORE IS BET ON GAME. (2)
1	0	1						WILD JOKERS WHEN 4 OR MORE IS BET ON GAME. (2)
1	0	0						ALWAYS WILD JOKERS REGARDLESS OF BET. (2)
1			1					NORMAL 5 CARD DISCARD MODE.
1			0					LIMIT TO 3 CARD DISCARD.
1				1	SEE BELOW			A FIXED AVERAGE DETERMINES RETURN TO PLAYER. (57)
1				1	1	0	0	ANY PAIR WINS.
1				1	1	0	1	PAIR OF EIGHTS OR BETTER WINS.
1				1	1	1	0	PAIR OF JACKS OR BETTER WINS.
1				1	1	1	1	89%
1				1	0	0	0	85%
1				1	0	0	1	81%
1				1	0	1	0	77%
1				1	0	1	1	73%
								STANDARD - RETURNED TO PLAYER. PAIR OF ACES IS MINIMUM WIN. SEE NOTES BELOW.
1				0	SEE BELOW			A DYNAMIC GOVERNOR DETERMINES RETURN TO PLAYER.
1				0	0	0	0	86%
1				0	0	0	1	85%
1				0	0	1	0	84%
1				0	0	1	1	83%
1				0	1	0	0	82%
1				0	1	0	1	81%
1				0	1	1	0	80% ← [STANDARD PRESET BY MANUFACTURER]
1				0	1	1	1	79%
								DYNAMIC - RETURNED TO PLAYER. PAIR OF ACES IS MINIMUM WIN. SEE NOTES BELOW.

- NOTES:
- ① IN THE ABOVE CHART, WHERE SWITCH POSITION IS LEFT BLANK, THE SETTING IS OPTIONAL.
  - ② THE EXACT SAME PERCENTAGES ARE RETURNED WITH OR WITHOUT WILD CARDS
  - ③ FIXED AVERAGE OPERATION EXHIBITS A GREATER SHORT TERM VARIATION THAN THE DYNAMIC GOVERNOR OPERATION.
  - ④ ALL PERCENTAGES ARE FOR THE 5 CARD DISCARD MODE.

SECOND SCREEN DISPLAY

A phone jack-plug assembly is provided in each machine to allow an owner to check current version and return percentage of machine; Input-Output totals, current and cumulative; plus, player win percentages, current and cumulative. The current totals are displayed in white numerals in the right column. The first figure indicates the current input. The second figure is not significant in this application. The third figure indicates the current output. The bottom figure indicates the players current win percentage. To clear the right column, press the "Cancel Discard" switch while plug is inserted in jack. (Behind Coin Mechanism)

The left column, yellow figures are cumulative totals, that is, the totals represent the Board's "Lifetime" totals to the moment. The first figure indicates the total input. The second figure is not significant in this application. The third figure indicates the total output. The Bottom figure indicates the players cumulative win average. This column is not cleared as long as the Board is in operation. Daily recording of figures from both columns assures an accurate accounting of transactions and provides the owner with an invaluable aid in determining the most advantageous or profitable modes of operation. Periodic daily checks over a given period of time will help to monitor peak hours of player activity. For instance, if a machine is available for play from 8 A.M. till 8 P.M., the data display information could be recorded every three or four hours along with the time of day and evaluated accordingly. Individual attendants could be required to record data when they come on and go off duty, there-by assuring accountability for collections of coins.

## STANDARD FEATURES

### Coin Acceptor - Coin Counter

Each machine is equipped with a 25¢ coin acceptor and a 25¢ coin counter. Other coin acceptors and counters are available as options.

### Switches

On the back of the cabinet are two switches. The first switch, a toggle type, turns only the T.V. monitor "ON" or "OFF!" The Printed Circuit Is Always Turned On As Long As The Machine Is Connected To An A. C. Outlet.

The second switch is a push button type. It is utilized when "error" or "coin" is displayed on the monitor or the game stops playing for what ever reason.

When depressed, this switch, erases and resets the game to operational Mode.

### Knock-Off Switch

Wiring is installed in each cabinet for use with a knock-off key switch. "Knock-off" switch counts down the accumulated credits. The wires (2) are located near the coin chute in the front of the cabinet. (One Orange, One Black)

The Poker Games have the ability to operate in several other mode configurations when optional equipment is installed. Information on options and their distinct characteristics follows:

### Options - Equipment

- 1) Token dispenser, Payoff counter;
- 2) Two coin acceptors - One 25¢, One 10¢;
- 3) 10¢ Coin Counter;
- 4) Four Mode Configurations. (Described on following pages.)
- 5) Black and White T. V. Monitor;
- 6) Draw Poker without high-low feature; requires glass change on game;
- 7) Single Coin Limit. (Pin 35 to GND)
- 8) Omission of all messages using "bet", "credit", etc. (Pin 36 to GND)
- 9) High-Low, Double-Up Flash; Requires Program change. See Supplement.

Options - Equipment

OPTIONS

DESCRIPTION OF FOUR BASIC MODE CONFIGURATIONS

MODE 1 :     Coin Bet - Coin or Token Payoff  
                  (Gray wire grounded, Yellow wire loose.)

Additional Equipment Required: Coin/Token Dispensor, Payoff Counter.

FORMAT:

Coins are added directly to the bet counter. Winnings are paid off at the end of each game played, via the token dispenser, while "points" paid is displayed on monitor and registered on counter. "Points" is cleared when play continues. Coin value and maximum limit is predetermined in equipment.

-----

MODE 2 :     Credit Bet - Coin or Token Payoff  
                  (Gray and Yellow Wires Loose)

Additional Equipment Required: Coin/Token Dispensor, Payoff Counter.

FORMAT:

Coins are added to credit counter, unlimited amount may be deposited. A portion of these credits are then bet via the "Play Credits" switch. Winnings are paid off at the end of each game played, via the token dispenser, while "Points" paid is displayed on monitor and registered on counter. "Points" is cleared when play continues. Coin value and maximum bet per game is predetermined in equipment.

Options

Mode 3:            Coin Bet - Points Puildup  
(Gray and Yellow wires grounded)

No additional equipment Required - Must connect "Knock-Off Key Switch".

Format: Coins deposited are added directly to the bet counter. Coin value & maximum bet limit are predetermined in equipment. Winnings are built up in the points counter. Player cannot bet winnings. This configuration is used primarily where the arcade does not use tokens but manually awards tickets at the end of play. After "points" have been awarded, display counter is erased and reset to "O" via the "Knock-Off key switch"

Mode 4:            Credit Bet - Credit Buildup  
(Gray wire loose, yellow wire grounded)

No additional equipment Required

Format: Unlimited amount of coins may be deposited, they are added to the credit counter. The value of coins and bet limit per game are predetermined in equipment. Portions of these credits can then be bet via the "play credits" switch. Winnings are added back into the credit counter where they can be subsequently bet on the following game. Unless otherwise requested, this is the mode preset by the manufacturer.

## HIGH-LOW DOUPLE-UP

### FLASH OPTION

This option involves only a change of programmed chips in the printed board. The "HLF Series" of proms installed at positions u12, u18 and u19, change the program as follows.

First, in the "Dynamic" mode, the minimum win is a pair of jacks. Secondly, there is a fixed five card discard, to which all percentages on the chart apply.

Finally, when a player elects to play High-Low, Double-Up, the cards are displayed "Flashing", face-up on the screen until the player depresses the corresponding button for a high or low choice.

See the supplemental switch deliniation chart which defines the settings and effect of the DIP Switches at u30 in conjunction with this option.

Supplement Sheet

OPTION SWITCH DELINIATION FOR A POKER/HI-LO-FLASH

SWITCH NUMBERS								KEY: U30 = 8 POSITION DIP SWITCH PACKAGE. 0 = ON = DEPRESSED TOWARD "NUMBERED" SIDE. 1 = OFF = DEPRESSED TOWARD "OPEN" SIDE.
1	2	3	4	5	6	7	8	
0								MANUAL TEST POSITION.
1								NORMAL OPERATIONAL POSITION.
1	1	1						NO WILD JOKERS.
1	1	0						2 WILD JOKERS WHEN 8 OR MORE IS BET ON GAME.
1	0	1						2 WILD JOKERS WHEN 4 OR MORE IS BET ON GAME.
1	0	0						ALWAYS 2 WILD JOKERS, REGARDLESS OF BET.
1								FIXED - 5 CARD DISCARD. (SWITCH 4 AT "1" OR "0")
1				1	SEE BELOW			A STANDARD FIXED AVERAGE DETERMINES RETURN TO PLAYER.
1				1	1	0	0	ANY PAIR WINS.
1				1	1	0	1	PAIR OF EIGHTS OR BETTER WINS.
1				1	1	1	0	PAIR OF JACKS OR BETTER WINS.
1				1	1	1	1	89% STANDARD.
1				1	0	0	0	85% STANDARD.
1				1	0	0	1	81% STANDARD.
1				1	0	1	0	77% STANDARD.
1				1	0	1	1	73% STANDARD.
1				0	SEE BELOW			A DYNAMIC GOVERNOR DETERMINES RETURN TO PLAYER.
1				0	0	0	0	86% DYNAMIC.
1				0	0	0	1	85% DYNAMIC.
1				0	0	1	0	84% DYNAMIC.
1				0	0	1	1	83% DYNAMIC.
1				0	1	0	0	82% DYNAMIC.
1				0	1	0	1	81% DYNAMIC.
1	0	1	1	0	1	1	0	80% DYNAMIC.
1				0	1	1	1	79% DYNAMIC.

NOT USED IN THIS APPLICATION

RETURN TO PLAYER EXCEEDS 100% - USED ONLY FOR LOW VALUE "SKILLPOINT" MERCHANDISE

PERCENT RETURNED TO PLAYER. PAIR OF ACES IS MINIMUM WIN. SEE NOTES BELOW.

PERCENT RETURNED TO PLAYER. PAIR OF JACKS IS MINIMUM WIN. SEE NOTES BELOW.

[CONFIGURATION PRESET BY MANUFACTURER]

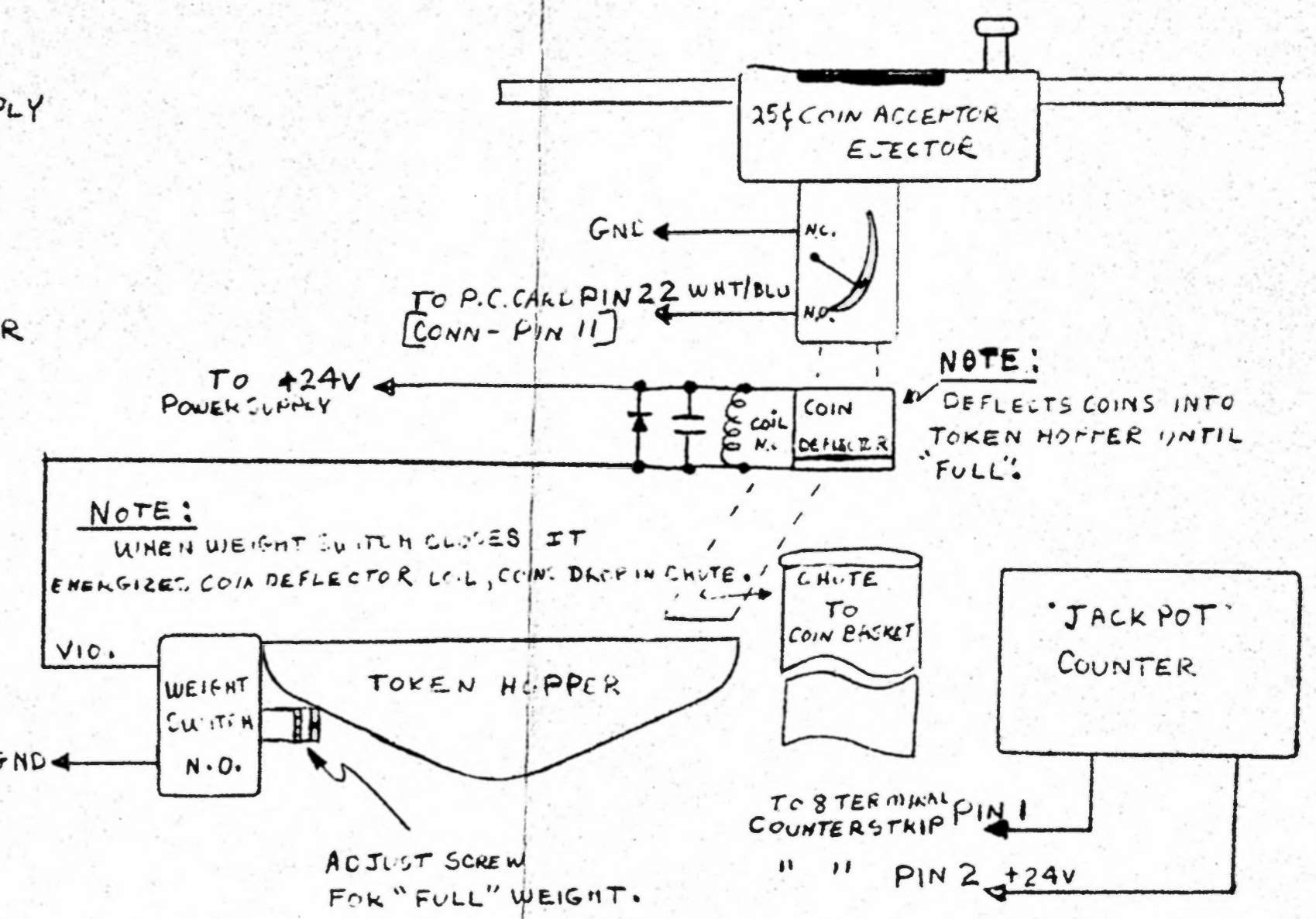
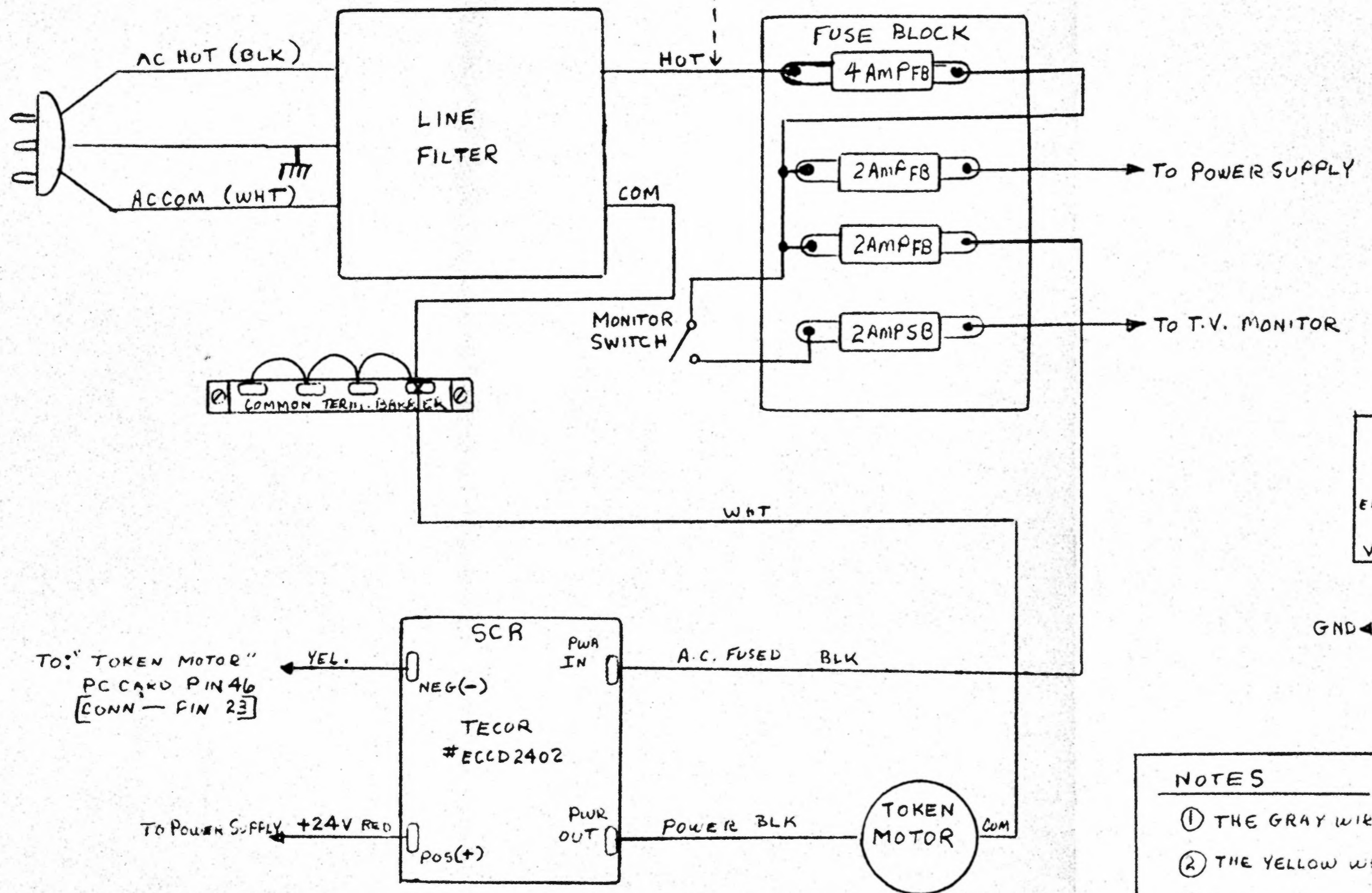
NOTES:

- ① IN THE ABOVE CHART, WHERE SWITCH POSITION IS LEFT BLANK, THE SETTING IS OPTIONAL.
- ② THE EXACT SAME PERCENTAGES ARE RETURNED WITH, OR WITHOUT WILD CARDS.
- ③ THE STANDARD FIXED AVERAGE OPERATION EXHIBITS A GREATER SHORT TERM VARIATION THAN THE DYNAMIC GOVERNOR OPERATION.
- ④ THERE IS A FIXED 5 CARD DISCARD MODE TO WHICH ALL PERCENTAGES APPLY.

CABINET ADDITIONAL WIRING FOR COIN IN - COIN OUT

- 1) Add Yellow wire to Pin 23 P. C. Board connector and connect same to negative side to SCR; PIN 4. [MOTOR]
- 2) Add Red wire to counter terminal strip and connect same to positive side of SCR; (+ 24 VDC) [TRIAC] PIN 3.
- 3) Add 18 ga. Black wire to fuse block and connect same to one side of SCR either Pin 1 (one) or Pin 2 (two); (HOT-FUSED) ( 2AFB FUSE)
- 4) Take 18 ga. Black wire from either Pin 1 (one) or Pin 2 (two) of SCR and connect same to a six pin Molex using Male .093 Pin.
- 5) Add 18 ga. White wire to terminal strip of fuse block assembly and connect same to 6 pin Molex using .093 Pin. (A. C. COM )
- 6) Extend Gray wire in front of cabinet and connect same to 6 pin Molex using a .093 Pin. [TOKEN SW]
- 7) Extend Black wire in front of cabinet and connect same to 6 pin Molex using .093 Pin (GND)
- 8) Add Purple wire to 6 pin Molex using .093 pin and connect same to diverter coil.
- 9) Disconnect Yellow wire from ground strip and leave open.  
(In back of Machine)
- 10) Attach Gray wire; (Loose in Ground Strip Area) to GROUND.

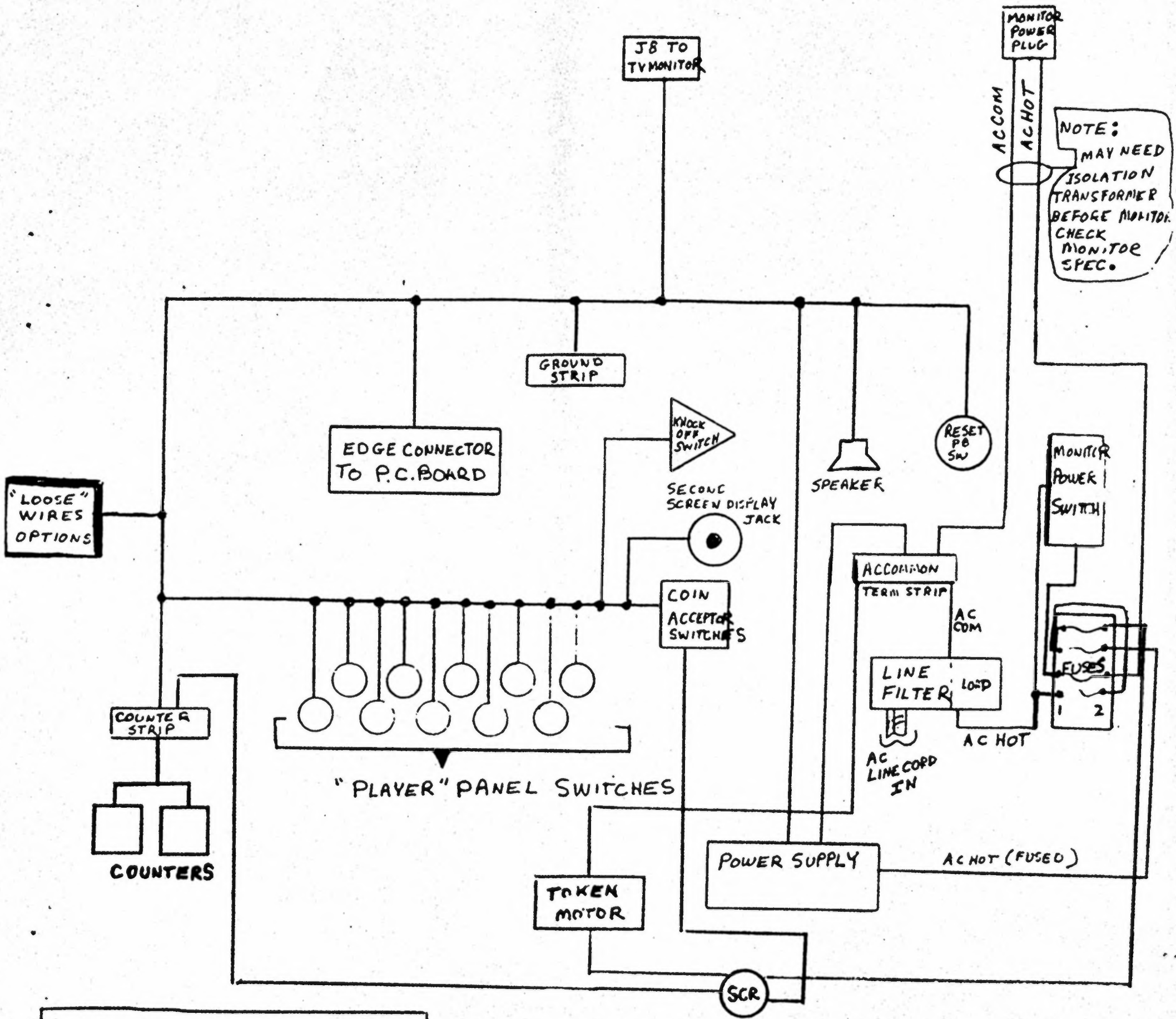
NOTE: POKER/21/BLACKJACK HAVE A.C. POWER SWITCH BEFORE FUSES.



**COIN BET - COIN PAYOFF MODE - CONFIGURATION**  
 APPLICATION: POKER/21, POKER/HIGH-LOW, DOMINOS AND BLACKJACK/BONUS 21 GAMES.  
 H

**NOTES**

- ① THE GRAY WIRE FROM P.C. CARD PIN 27 MUST BE GROUNDED. (CONN PIN R)
- ② THE YELLOW WIRE FROM P.C. CARD PIN 25 MUST BE OPEN. (CONN PIN P)
- ③ "JACKPOT" DISPLAY ON 2<sup>ND</sup> SCREEN IS SECOND FIGURE FROM TOP (1 PER 100 IS REGISTERED)
- ④ **FORMAT:**  
 COINS ARE ADDED DIRECTLY TO THE BET COUNTER. WINNINGS ARE PAID OFF AT THE END OF EACH GAME VIA TOKEN/COIN DISPENSOR (UP TO LIMIT, BALANCE PAID BY ATTENDANT.). "POINTS" PAID IS DISPLAYED ON MONITOR AND REGISTERED ON COUNTERS.
- ⑤ **UNPLUG AC CORD BEFORE CHANGING COMPONENTS;** NOTICE POWER IS ALWAYS ON IN POKER/HIGH-LOW AND DOMINO GAMES WHEN MACHINE IS PLUGGED INTO POWER OUTLET, ONLY MONITOR IS TURNED OFF BY TOGGLE SWITCH.



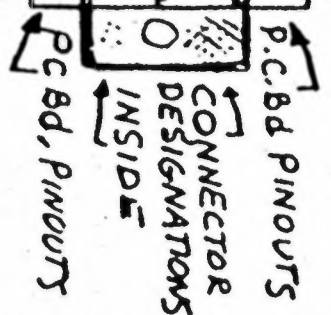
NOTE:  
MAY NEED  
ISOLATION  
TRANSFORMER  
BEFORE MONITOR.  
CHECK  
MONITOR  
SPEC.

HARNESS LINE DRAWING  
POKER / HIGH-LOW

WIRE COLOR - SIGNAL NAME		MTM	P.C.B.D. PINOUTS		SIGNAL NAME - WIRE COLOR	
BLK(20)	GND	1	1	A	1	GND
WHT/BLK	VCC(+5V)	2	2	B	2	(+5V)VCC
ETCN CONNECTED	-5V	3	3	C	3	-5V
RED/BLK	+12V	4	4	D	4	+12V
WHT/RED	V SYNC	5	5	E	5	(SIZE) - NOT USED -
BRN(22)	H SYNC	6	6	F	6	(POKER) - NOT USED -
	- NOT USED -	7	7	G	7	(BJ) - NOT USED -
	NOT USED - (CTRL 1)	8	8	H	8	CR-A
	NOT USED - (CTRL 2)	9	9	I	9	CR-K
WHT/ORG	JP OR 10¢ COIN SW	10	10	J	10	60HZ
WHT/BLU	25¢ COIN SW	11	11	K	11	- NOT USED -
ORG/RED	PLY CRDT SW	12	12	L	12	RESET
YEL/BRN	DEAL SW	13	13	M	13	COIN MODE
ORG(22)	DIS 1 SW	14	14	N	14	BU MODE
WHT/VID	DRAW SW	15	15	O	15	(CLR) - NOT USED -
RED/BLK	STAND SW	16	16	P	16	- NOT USED -
GRY(22)	TOKEN SW	17	17	Q	17	PAYOFF SW (KNOCKOFF)
RED/YEL	(TST 1) DELETE WORDS	18	18	R	18	SINGLE COIN LIMIT (TST 2)
PLU(22)	DIS 2 SW	19	19	S	19	DIS 3 SW
WHT(22)	DIS 4 SW	20	20	T	20	DIS 5 SW
	- NOT USED - CTRL 7	21	21	U	21	CANCEL SW
RED/VID	10¢ OR JP CTR	22	22	V	22	- NOT USED -
YEL(22)	TOKEN LMP	23	23	W	23	- NOT USED -
RED(22)	NOT USED - (BAT+)	24	24	X	24	+24V
WHT/VID	AUDIO	25	25	Y	25	- NOT USED -
ORG(22)	NOT USED - (10¢ UNLOCK)	26	26	Z	26	- NOT USED -
GRN(22)	DIS 1 LMP	27	27	a	27	BLK & WHT VIDEO
BLU/VID	DEAL LMP	28	28	b	28	PLY CRDT LMP
WHT/BRN	DIS 4 LMP	29	29	c	29	STAND LMP
WHT/BRN	25¢ UNLOCK	30	30	d	30	DIS 5 LMP
WHT/GRY	DRAW LMP	31	31	e	31	(PCU DRUR) - NOT USED -
	NOT USED - (PCIDRV)	32	32	f	32	DIS 2 LMP
WHT/PLU	CANCEL LMP	33	33	g	33	PAYOFF CTR
WHT/BLK	DIS 3 LMP	34	34	h	34	GRN
WHT/BRN	25¢ CTR	35	35	i	35	BLU
	- NOT USED - (RTN)	36	36	j	36	RED

**OPTION INVOLVED**

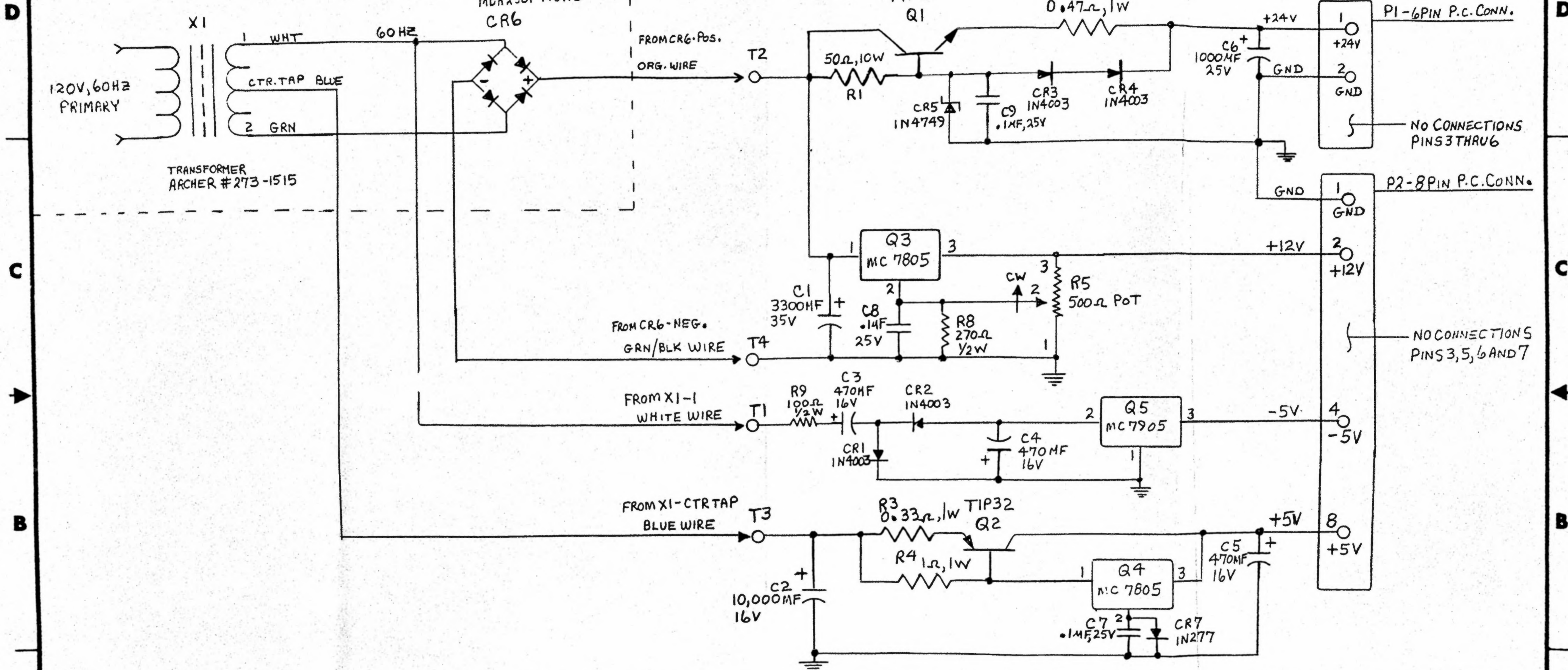
EDGE CONNECTOR  
50 WIRES



POKER / HIGH-LOW  
PINOUTS

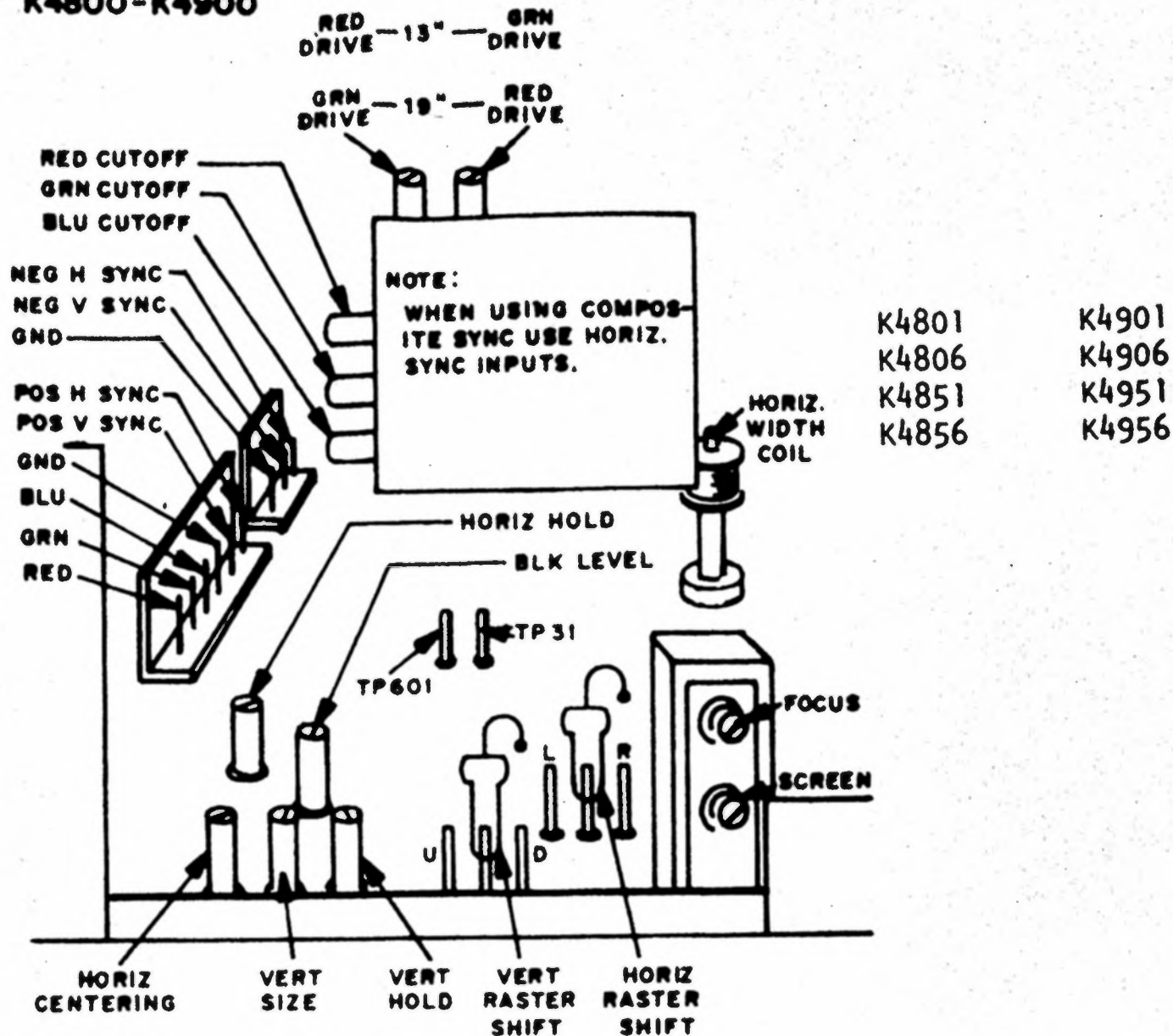
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED
2	B	DELETED R6; ADDED CR7	8-26-82	J. Foy

THESE PARTS MOUNTED ON BASE PLATE



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± ± .XXX ±		CONTRACT NO.		LJFCORP. PLEASANTVILLE, N.J. 609-641-1844	
MATERIAL		APPROVALS		DATE	
FINISH		DRAWN		2-1-82	
NEXT ASSY		CHECKED		2-3-82	
USED ON		SCALE		CODE IDENT NO.	
APPLICATION		N/A		DRAWING NO.	
DO NOT SCALE DRAWING		REV. C		SD 7840	
		SCALE		SHEET 1 OF 1	

K4800-K4900



1. HORIZONTAL FREQUENCY

With the monitor being driven from the game signal, connect a jumper between TP601 and TP31. Adjust the horizontal hold control until picture stops sliding horizontally, remove jumper. Do not use the horizontal hold control for horizontal centering. (See #3) NOTE: When game sync is composite, use horizontal sync input.

2. PICTURE SIZE

Adjust the vertical size control, and the horizontal width coil for desired picture size.

3. PICTURE CENTERING

If the video is off center vertically, move the vert raster position adjustment to the up or down position. If the video is off center horizontally, adjust the horizontal video position control to center the picture. If any additional horizontal positioning is required, move horizontal raster position adjustment to the left or right position.

4. BLACK LEVEL

Adjust the black level control to obtain the proper black level (the black portion of the picture just extinguished). Do not use the screen control to set the black level.

5. FOCUS

Adjust the focus control for best overall definition and fine picture detail.

# 13" COLOR MONITOR SCHEMATIC DIAGRAM

## MODELS 13K4801, 13K4806, 13K4851, 13K4856

Power Supply Voltage and Symbols

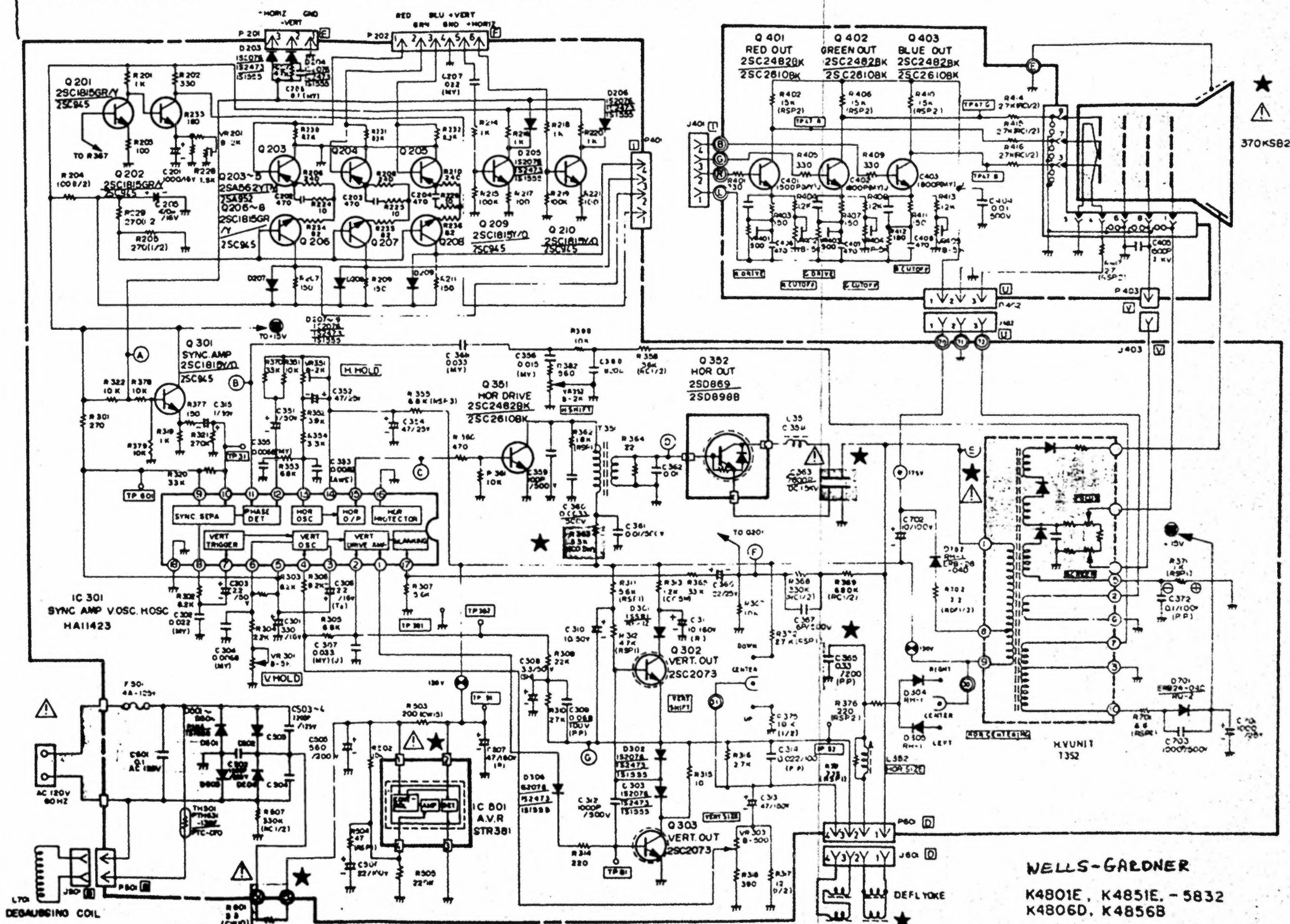
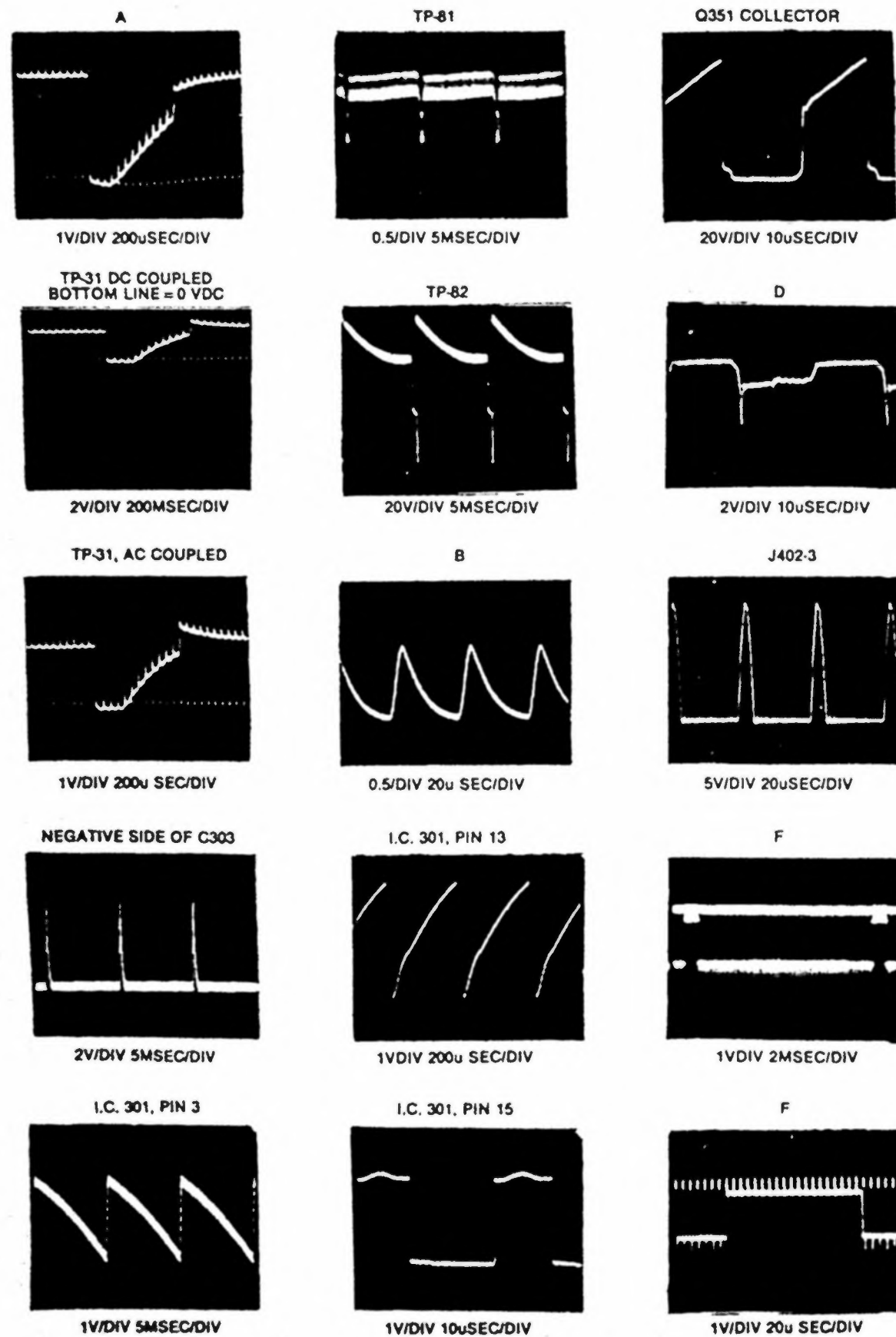
Symbol	Voltage	Operating Circuit
	15V	Vert. Osc. Sync Blanking CRT Cut-Off
	130V	Horiz. Osc. Horz. Drive Horz. Output Vert. Output
	175V	Video Output

**SERVICE TECHNICIAN WARNING**  
**X-RAY RADIATION PRECAUTION:**  
 THIS PRODUCT CONTAINS CRITICAL ELECTRICAL AND MECHANICAL PARTS ESSENTIAL FOR X-RAY RADIATION PROTECTION. FOR REPLACEMENT PURPOSES, USE ONLY TYPE PARTS SHOWN IN THE PARTS LIST.

**CAUTION: FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.**  
**AVERTISSEMENT: POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.**

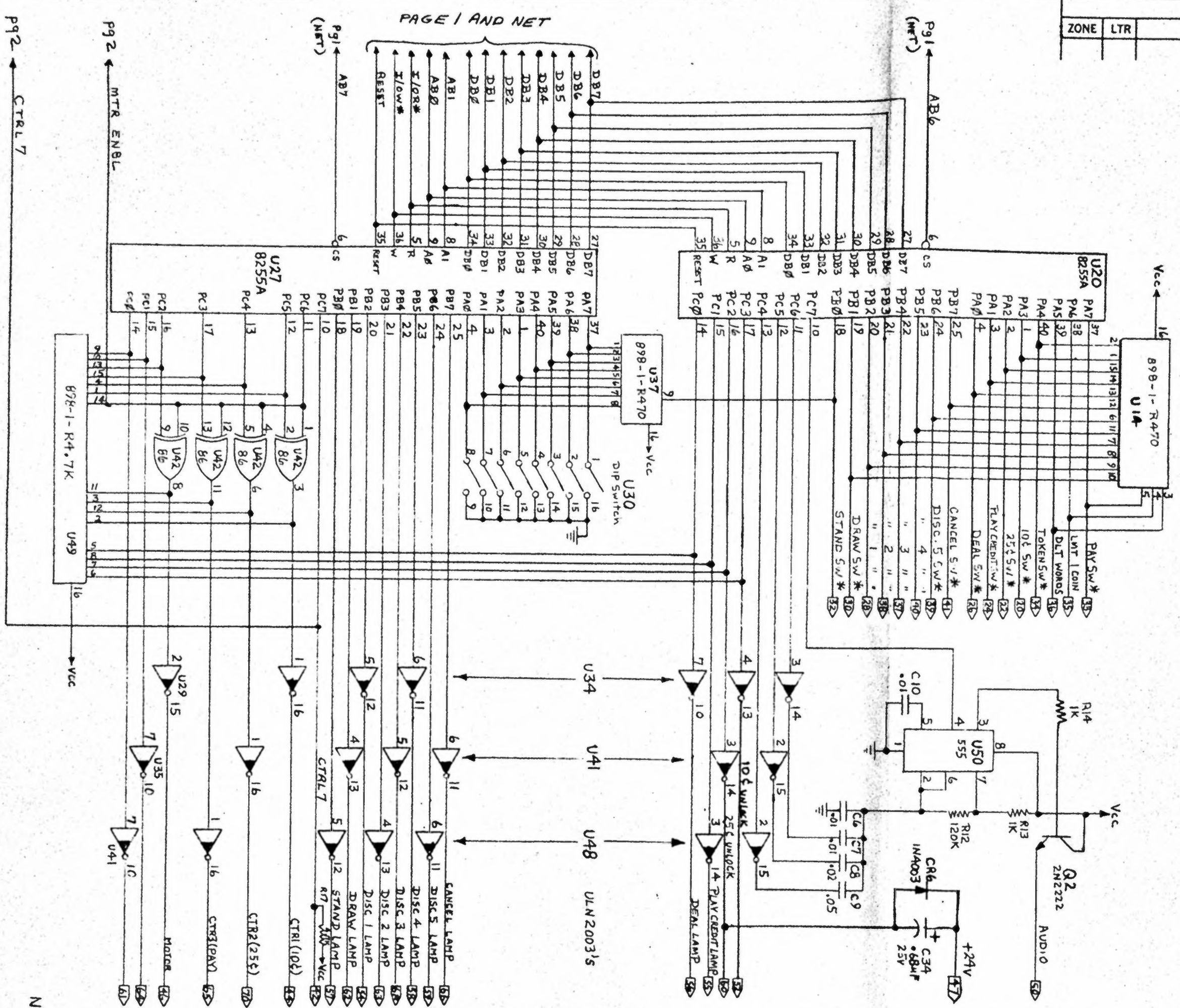
### OSCILLOSCOPE WAVEFORM PATTERN

The waveforms shown are as observed on the wide band oscilloscope with the monitor turned to a reasonably strong signal and a normal picture. The voltages shown on each waveform are the approximate peak amplitudes. If the waveforms are observed on the oscilloscope with a poor high frequency response, the corner of the pulses will tend to be more rounded than those shown and the amplitude of any high frequency pulse will tend to be less.



**WELLS-GARDNER**  
 K4801E, K4851E, - 5832  
 K4806D, K4856B

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



NOTE:  
PINOUTS NOT LABELED ARE NOT USED.

QTY REQD	CODE IDENT	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:		CONTRACT NO.	
FRACTIONS ±	DECIMALS .XX ±	ANGLES ° ±	APPROVALS
			DATE
MATERIAL	DRAWN		
	CHECKED		
FINISH	DRAW POKER-HIGH-LOW DOUBLE-UP		
NEXT ASSY	USED ON	INPUT / OUTPUT	SIZE C
APPLICATION	DO NOT SCALE DRAWING	SCALE N/A	REV 5
			SHEET 4 OF 4

4  
0  
E

4  
0  
E

