



TDI-200
TIME/DATE/IDENT/GENERATOR

broadcast video systems corp.

10 Woltner Way, Markham, Ontario L3R 4R4
Phone(905)305-0565 Fax(416)946-1964
E-mail: bvs@bvs.ca Website: www.bvs.ca

TDI-200 Installation & Operation

The TDI-200 ident zone consists of one to four rows of up to sixteen characters per row, or a single row of up to 48 characters (see section 7 under "Programming Procedure").

Programming is done with eight DIP switches which select function, row and column, along with a pushbutton which selects characters, numerics and clock/calendar digits. The ident zone is positionable within active video.

The single row of 48 characters may be vertically positioned in active video or may be inserted directly into the Vertical Blanking Interval. The VBI must be free of any other signals in this mode.

The **WHT** level control on the front card edge sets the white level of the inserted characters.

In the 1-4 row mode of operation, an optional black window may be enabled by moving the four way jumper (located to the right end of IC8) towards the connector end of the PC board. Adjust the **BLK** level control to set the black level of the window and adjust the **WHT** level to set the character white level.

Note: These controls are interactive.

The internal clock is locked to the AC power frequency. With all DIP switches in the **Up** position the date, time and line frequency will be displayed. Depressing the pushbutton will switch between 50 or 60 Hz reference.

Note: This unit is equipped with a nicad battery as a backup supply for the clock/calendar in the event of power failure. Discharge time is 40-50 hours. Average shipping time will usually exceed this time period making it necessary to set time and calendar upon installation (refer to sections 5 & 6).

TDI-200 Programming Procedure **(Four Rows, 16 Characters per Row)**

1) All DIP switches to Down (D) position. (D=down, U=up)

2) To select row:

ROW	SW5	SW6	SW7
1	U	D	D
2	D	U	D
3	U	U	D
4	D	D	U

When row is selected, two cursors appear:

- a) Cursor on right (S) indicates standard character set or (C_) indicates clock/calendar digit position.
- b) Cursor on bottom indicates column.

3) To select column:

COLUMN	SW1	SW2	SW3	SW4
1	D	D	D	D
2	U	D	D	D
3	D	U	D	D
4	U	U	D	D
5	D	D	U	D
6	U	D	U	D
7	D	U	U	D
8	U	U	U	D
9	D	D	D	U
10	U	D	D	U
11	D	U	D	U
12	U	U	D	U
13	D	D	U	U
14	U	D	U	U
15	D	U	U	U
16	U	U	U	U

4) Use pushbutton to select the following:

- a) numbers, 0-9
- b) letters, A-Z
- c) special characters (punctuation)
- d) space or blank immediately after (CB)
- e) clock/calendar digit positions:

(C0) = tens/years	(C7) = units/hours
(C1) = units/years	(C8) = tens/minutes
(C2) = tens/months	(C9) = units/minutes
(C3) = units/months	(CA) = tens/seconds
(C4) = tens/days	(CB) = units/seconds
(C5) = units/days	
(C6) = tens/hours	

Return to step #2 to program next character (or clock/calendar position).
See example after step #9. When finished, return all DIP switches to down position.

5) To select clock/calendar:

Set all DIP switches to the UP position. Display will appear in top left corner of picture (monitor should be in underscan mode or reduced picture height). Alternate operation of pushbutton will select 50 or 60 Hz clock reference depending on local power frequency.

- a) set DIP switches 1,2,3,4 DOWN and two cursors will appear indicating the row and column to be programmed
- b) cursor on right (CS) indicates row
- c) cursor on bottom indicates column
- d) date and time rows will be identified (to change any values refer to step #6)

NOTE: The calendar display sequence will appear as DAY/MONTH/YEAR. This sequence may be altered when programming the columns (step #3).

6) To set time and date:

Use DIP switches to select function, and pushbutton to select required number.

	SW1	SW2	SW3	SW4
tens/days	D	D	D	D
units/days	U	D	D	D
tens/months	D	U	D	D
units/months	U	U	D	D
tens/years	D	D	U	D
units/years	U	D	U	D
tens/hours (24:00 hr)	D	U	U	D
units/hours	U	U	U	D
tens/minutes	D	D	D	U
units/minutes	U	D	D	U
tens/seconds	D	U	D	U
units/seconds	U	U	D	U

When finished, return all DIP switches to down position. Invalid time and date entries will cause the clock to run erratically.

7) To change number of rows in window, set DIP switches:

SW5	SW6	SW7	SW8
D	D	U	U

Use pushbutton to select number of rows. The display will sequence in the following order on each pushbutton contact: 4 rows, 3 rows, 2 rows, 1 row, 1 row of 48 characters in active video, 1 row of 48 characters in the Vertical Blanking Interval. Return all DIP switches to down position.

8) To position window horizontally (not applicable to 1 row of 48 characters), set DIP switches:

SW5	SW6	SW7	SW8
U	D	D	U

Use pushbutton to select position. Return all DIP switches to down position.

9) To position window vertically, set DIP switches:

SW5	SW6	SW7	SW8
D	D	D	U

Use pushbutton to select position. Return all DIP switches to down position.

EXAMPLE: to move date to bottom row, and change to Aug. 1, 1990

Select row:

SW5	SW6	SW7
D	D	U

	pushbutton	SW1	SW2	SW3	SW4
select column	-	D	D	D	D
select space	space				
select column		U	D	D	D
select letter	D				
select column		D	U	D	D
select letter	A				
select column		U	U	D	D
select letter	T				
select column		D	D	U	D
select letter	E				
select column		U	D	U	D
select colon	:				
select column		D	U	U	D
select space	space				
select column		U	U	U	D
select tens/months	C2				
select column		D	D	D	U
select units/months	C3				
select column		U	D	D	U
select "slash"	/				
select column		D	U	D	U
select tens/days	C4				
select column		U	U	D	U
select units/days	C5				
select column		D	D	U	U
select "slash"	/				
select column		U	D	U	U
select tens/years	C0				
select column		D	U	U	U
select units/years	C1				
select column		U	U	U	U
select space	space				

Set clock/calendar mode:

SW5	SW6	SW7	SW8
U	U	U	U

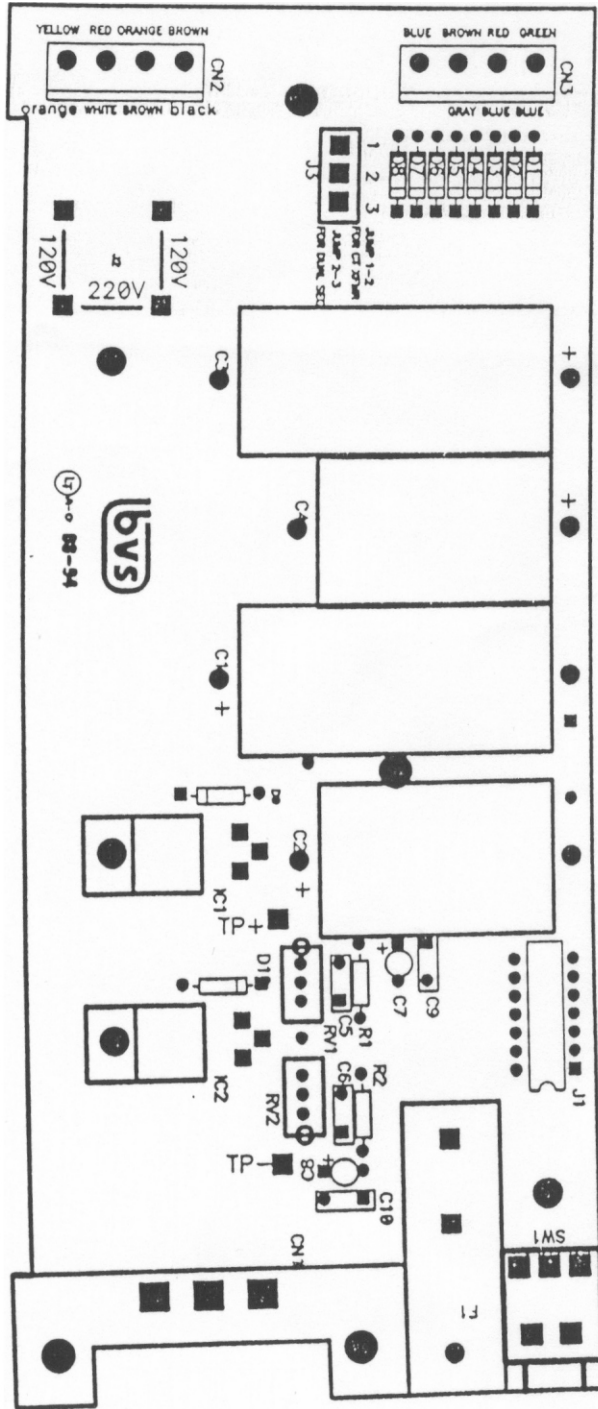
		SW1	SW2	SW3	SW4
select tens/months		D	U	D	D
select 0	0				
select units/months		U	U	D	D
select 8	8				
select tens/days		D	D	D	D
select 0	0				
select units/days		U	D	D	D
select 1	1				
select tens/years		D	D	U	D
select 9	9				
select units/years		U	D	U	D
select 0	0				

Then select first row and program spaces in all sixteen columns. When finished, return all DIP switches to down position.

10) The TDI-200 is shipped with white characters which are keyed into program video that is fed to the input. The WHT control at the front board edge adjusts the white level of the characters. To change characters to black, move jumper F to rear position. Adjust black of characters with BLK control on front card edge. To change to white characters in a black box, move jumpers C and F to the rear positions. Adjust character white level with WHT control, and box black level with BLK control.

One Row, 48 Characters

To set characters 1 through 16, set DIP switches as per instructions for Row 1 (see step #2). Select cursor position as per column selection procedure (step #3). To set characters 17 through 32, set DIP switches as per instructions for Row 2, and select cursor position by repeating column selection (step #3). To set characters 33 through 48, set DIP switches as per instructions for Row 3, and again repeat column selection (step #3).



PS-1A
COMPONENT
LAYOUT

TDI-200

PCB PARTS LIST

DESCRIPTION	QUAN	COMPONENT NAME(S)
.01uF	1	C7
.1uF	20	C1, C10, C11, C12, C14, C15, C16, C21, C22, C23, C24, C25, C26, C28, C29, C32, C33, C4, C8, C9
1.5K	1	R16
100	3	R1, R2, R26
100uF 16v	1	C27
10K	8	R12, R13, R23, R4, R5, R50, R56, R8
10uF	1	C3
1@35	4	C18, C2, C30, C34
1K	1	R21
1N4148	13	D1, D11, D12, D13, D14, D2, D3, D4, D5, D6, D7, D8, D9
2-50pF	1	C19
2.2K	1	R55
220pF	1	C6
22K	2	R25, R27
22MEG	1	R14
22pF	1	C5
27C64	1	IC2
2K	2	R15, R22
2N4124	1	Q2
2N4126	1	Q1
3.3K	2	R52, R9
3.6v BATTERY	1	B1
32.768kHz XTAL	1	RX1
4.7K	1	R51
470	4	R28, R32, R34, R40
47K	1	R45
47uF	1	C20
500POT	1	R33
5K POT	3	R10, R19, R20
620	1	R17
6264	1	IC4
680	1	R11
680K	1	R18
68HC68T1	1	IC15
74LS00	1	IC11
74LS123	1	IC13
74LS125	1	IC17
74LS138	1	IC5
74LS14	1	IC8
74LS161	1	IC9

74LS166	1	IC12
74LS175	1	IC14
74LS245	1	IC3
74LS32	1	IC6
74LS74	2	IC10, IC7
75 1%	2	R24, R29
750	2	R30, R31
78L05	1	VR1
79L05	1	VR2
93C46N	1	IC16
A103GA	1	RN1
EL2020	1	IC19
GY4102	1	IC20
HD6303X	1	IC1
LM1881	1	IC18
MC34064P-5	1	VD1
NOT INSTALLED	1	R3
PIP8	1	SW1
TBD	1	C17

PS-1

PARTS LIST

240	2	R1, R2
1N4004	10	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10
14 PIN IC	1	J1
0.1uF/63v	4	C5, C6, C9, C10
PS-1 POWER SWITCH	1	SW1
10uF/35v	2	C7, C8
5K POT	2	RV1, RV2
19782 FUSE HOLDER	1	F1
2200uF/35v	2	C2, C4
3300uF/35v	2	C1, C3
EAC-333 RECEPTACLE	1	POWER PLUG
HEAT SINK	2	IC1, IC2
LM317	1	IC1
LM337	1	IC2