

## MONITOR CABINET ASSEMBLY DOCUMENTATION PARTS LIST

NOTE: This is a complete parts list. Depending on the option you ordered, your parts may vary from this list.

1	Monitor (unless purchased separately)	1	Upper cover
1	Side rail (right)	1	Lower cover
1	Side rail (left)	1	Rear brace
1	Small parts bag (4 8-32x3/8" screws)		

## MONITOR CABINET RECOMMENDED ASSEMBLY ORDER

### WARNING

**IF MONITOR HAS BEEN OPERATED IN THE PAST SEVERAL DAYS, HIGH VOLTAGE MAY STILL BE PRESENT ON THE PICTURE TUBE AND CERTAIN COMPONENTS. AVOID TOUCHING THE PICTURE TUBE OR CIRCUITRY.**

**HANDLE PICTURE TUBE WITH EXTREME CARE. TAPPING OR SCRATCHING THE TUBE MIGHT CAUSE IMPLOSION AND SCATTERING OF GLASS FRAGMENTS. IF YOU DO NOT FEEL QUALIFIED, PLEASE RETURN THE KIT TO US FOR ASSEMBLY.**

LOOK AT THE PHOTO AND EXPLODED DRAWING BEFORE PROCEEDING. ASSEMBLY STEPS SHOULD NOT BE ATTEMPTED WHILE MONITOR IS CONNECTED TO POWER.

### MONITOR PREPARATION

- Remove the wrap-around factory cover and rear plate. Do not remove the supporting bracket for the UHF connectors or bottom plate. Treat the picture tube with caution.
- Remove the rubber feet from the monitor chassis.
- Save all the screws, etc. (See Step 18)

### LOWER COVER

- Position the lower cover so either the right or the left side faces you.
- Hold the monitor chassis at roughly a 40° angle with the screen facing the front of the cabinet.

**MOASM-O-R0**

- Lower the monitor into the chassis as shown in exploded drawing inset.
- After the monitor is in place, flip it over on its side and install the (4) rubber feet that were removed in step 2 using the same hardware.
- Set the assembly right side up.

### SIDE RAILS

- Using the drawing, select the right side rail. The two side rails are mirror images of each other.
- Place the right side rail onto the two slide tabs.
- Slide the side rail to the rear until the back of the rear slide tab (attached to the inside of the lower cover) is flush with the rear of the side rail.
- Insert an 8-32x3/8" screw through the side rail and into the rear slide tab and tighten the screw.
- Repeat steps 9-12 for the left side rail.

### UPPER COVER AND REAR BRACE

- Place the upper cover over the assembly.
- Lower the cover into place so the interior slide tabs on the upper cover engage the slots in the side rail.
- Slide the upper cover to the rear until the slide tab and rail are aligned as in step 11.
- Set the rear brace in position and install two 8-32x3/8" screws through the brace and rail.

### REAR COVER

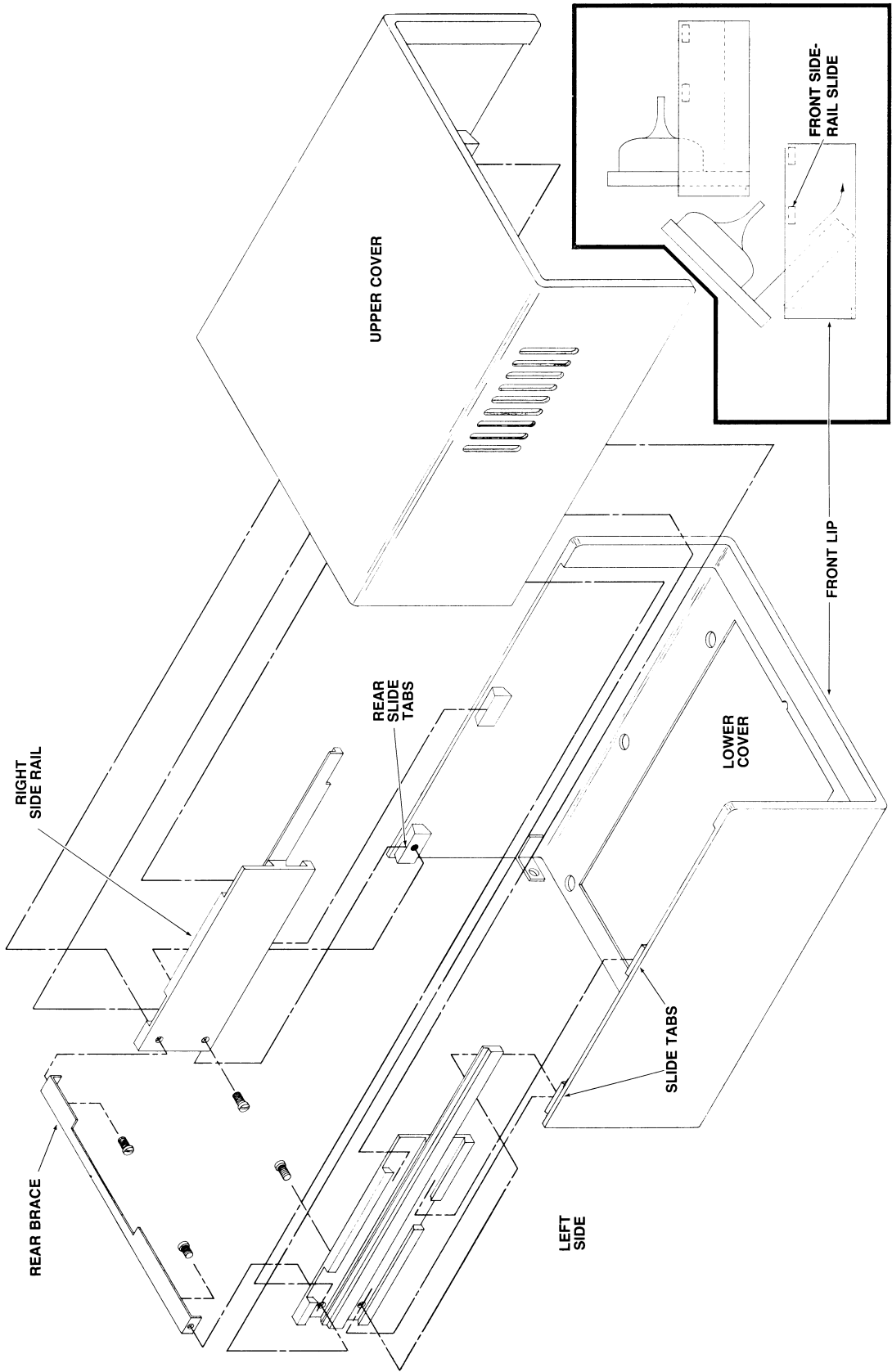
- Reinstall the rear cover (removed in step 1). Use the original hardware included with the monitor.

The Digital Group

the digital group

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## Cabling in a Digital Group or Bytemaster System

The monitor is driven from the 10-position edge connector on the top portion of the monitor PC card. The monitor may optionally be driven using a 14-pin ribbon cable plug (see schematic diagram) or by the sync separator paddlecard. The pinout of the 10-pin edge connector is shown below. The cable shown in Figure 2 is used for the connection between the TVC-64 card and the edge connector. The TVC-64 card must be modified to provide a positive horizontal sync signal to the card edge connector. With the modifications made, the connections between the TVC-64 and the monitor edge connector are as follows:

TVC-64 Connector	to	Monitor Connector
Pin 12	HORIZ. SYNC	Pin 6
Pin 13	VERT. SYNC	Pin 9
Pin 16	VIDEO OUTPUT (+) WHITE	Pin 8
Pin 20	GND	Pin 10

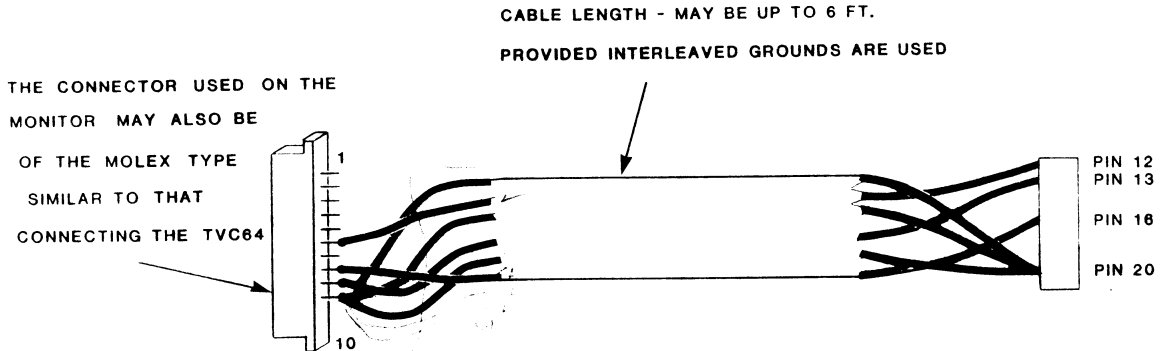


FIGURE 2 - CABLE BETWEEN TVC64 AND MONITOR EDGE CONNECTOR

### TVC-64 PINOUT

PIN 12 - HORIZONTAL SYNC  
 PIN 13 - VERTICAL SYNC  
 PIN 16 - VIDEO OUTPUT  
 PIN 20 - GND

### Edge Connector Pin-Out

- 1 Ground
- 2 External Brightness Potentiometer — CW end
- 3 External Brightness Potentiometer — CCW end
- 4 External Brightness Potentiometer — Wiper
- 5 Unused (Reserved for Step Vertical)
- 6 Horizontal Sync Input
- 7 +15 Volts DC
- 8 Video Input
- 9 Vertical Sync Input
- 10 Ground

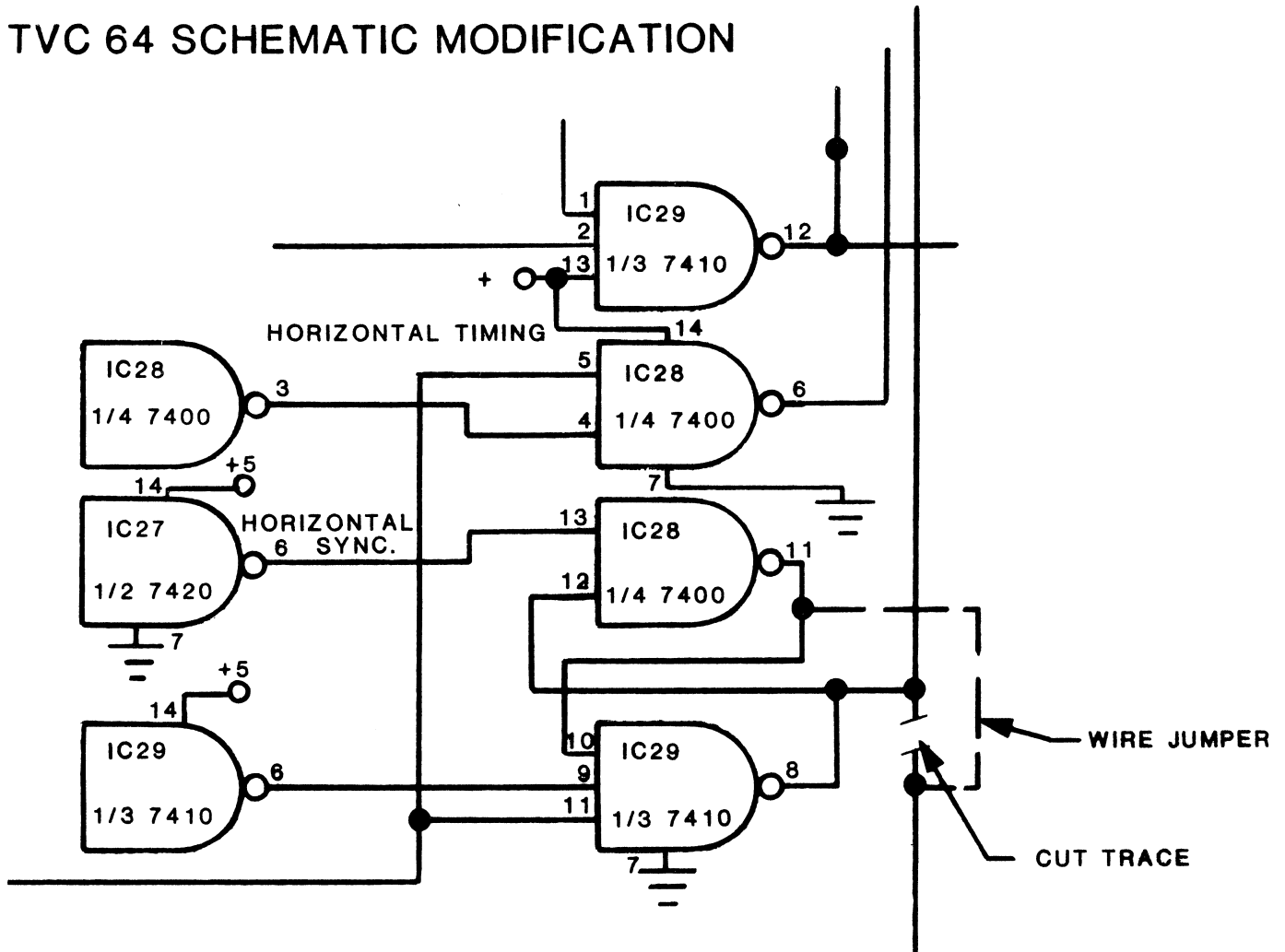
### Modification of TVC-64 for Separate Sync Video Signals

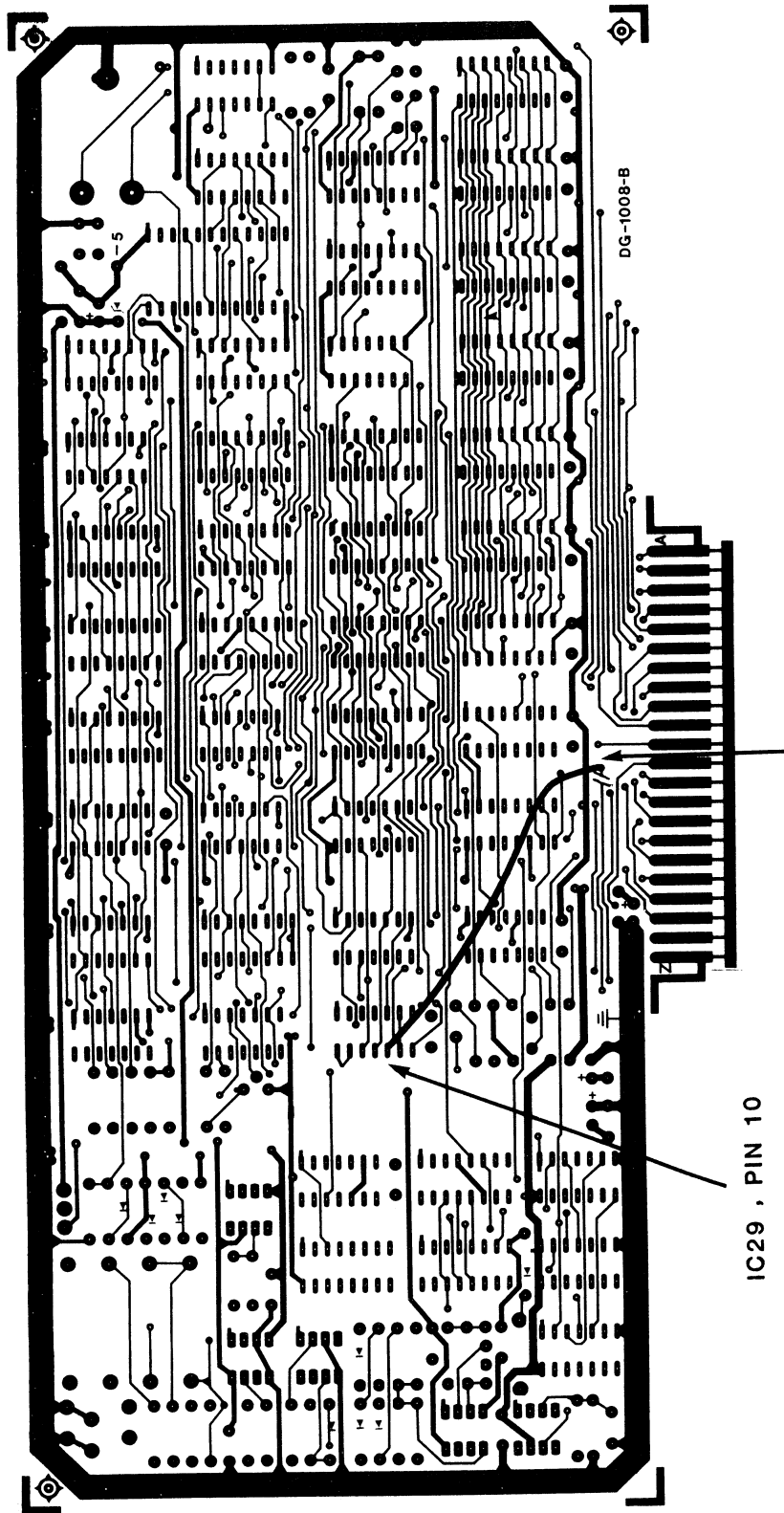
The recommended method of using the Data Monitor with a Digital Group system is to use separate video, horizontal sync and vertical sync signals. The standard TVC-64 board has this capability with a minor modification to bring the positive horizontal sync signal to connector pin 12.

1. Cut the trace going to pin 12. See Figure 3.
2. Connect an insulated wire from IC29 pin 10 to connector finger 12.

FIGURE 3

### TVC 64 SCHEMATIC MODIFICATION





CUT TRACE AT HATCH MARKS SHOWN ABOVE.

PAD CONNECTED TO PIN 12, TVC EDGE CONNECTOR

IC29, PIN 10

DG-1008-B

FIGURE 4 - TVC 64 BOARD LAYOUT - JUMPER ADDITION

Connections from the 22-pin dual edge connector of the TVC CPU cabinet to the data monitor are made by a 10-pin Molex cable attached to the connector wire-wrap pins. The video and sync signal connections can be made with wire, up to six feet long, with approximately 20-gauge stranded wire. The video and sync signals are carried the cable with alternate wires carrying ground. The cable is routed out of the CPU cabinet through any convenient rear panel opening.

When a 22-ohm swamping resistor has been added from video output to ground as is sometimes necessary for operation of the Phi-F card, the video signal amplitude may be inadequate to drive the monitor. The following change is recommended:

Replace R11 (TVC-64 board) with a solid wire connection.

Increase swamping resistor size as much as possible before Phi-F problems begin. Try resistors in the range of 47-ohm down to 22-ohm as required.

### Optional Sync Separator

The Optional Sync Separator provides a method of using composite video, and also provides adjustable video gain. Ten or more monitors may be connected to the same video source.

The sync separator plugs on the monitor edge connector and uses +15 volts and ground from the PC board connector. It supplies video and separated sync signals to the input pins of the monitor (10-pin connector on the PC board); it must be supplied with a composite video signal.

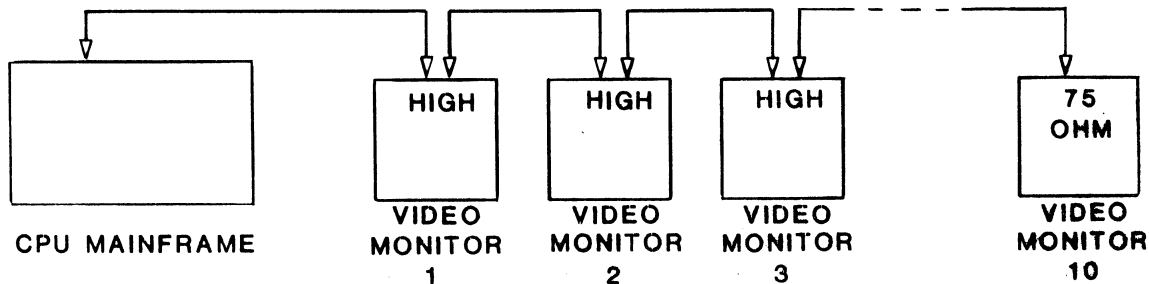
The video amplifier is a differential amplifier in which one input has been jumpered to circuit ground.

The gain of the video amplifier is set at 4 by resistor R11 (sync separator), 2200 ohms between pins 3 and 12 of IC1. If the gain is too high for the input signal, a gain of 1 can be set by removing this resistor. If the input signal is still too large (in which case streaking will result), a voltage divider should be added by installing a resistor, in series, at the (+) input.

The rear panel terminating switch is normally set at 75 ohms for single monitor usage (available only on standalone monitor cabinets).

A number of monitors may be operated simultaneously by interconnecting with coaxial cable. Terminate the final monitor with 75 ohms, and all other monitors by setting the rear panel switch to the high impedance mode.

**COAX CONNECTOR CABLE ( USING COMPOSITE VIDEO AND SYNC. SEPARATOR CIRCUITS ONLY. )**



**FIGURE 5 - VIDEO MONITOR IMPEDANCE TERMINATION**