VT TV VIDEOTON
SZÁMÍTÁSTECHNIKAI GYÁRA

Chameleon-16

ALPHANUMERIC VIDEOTERMINAL

SERVICE GUIDE

CHAMELEON VIDEOTERMINAL MAIN CHARACTERISTICS

- Superior ergonomics
- 14-inch non-glare flat screen
- Low power consumption: max. 32W
- Choice of green, amber or paperwhite CRT
- 14 built-in standard emulations
- Special features on customer's request
- Optional CCITT V.11 interface
- Optional bar code reader
- Optional credit card reader

APPLICATIONS

- Data input and output
- Data modification and correction
- Textediting
- PC Terminal

Available ASCII and ANSI videoterminal emulations:

- DEC, VT-52
- DEC, VT-100
- WYSE, WY-50
- Televideo, TVI-910
- Televideo, TVI-920
- Televideo, TVI-925
- Lear Siegler, ADM-22
- ADDS-VP
- Hazeltine-1510
- HP-2392A
- IBM-3101
- KT-7/PC
- VIP-7200
- DG-210/211

TERMINAL FEATURES

· Screen

- 14-inch CRT
- Non-glare flat screen
- Optional amber or paperwhite phosphor
- CRT saver mode

• **Memory**

- Firmware: min. 64 kbyte max. 256 kbyte EPROM
- Video RAM: 32 kbyte RAM
- Character generator: 32 kbyte RAM
- Changing display features: 8 kbyte battery backup RAM.

COMMUNICATION INTERFACE

• **Operating modes**

- Local (off-line) or remote (on-line)
- Character or block mode
- Full or half duplex
- Transparent (line monitor) mode

• **Character codes**

- Standard ASCII
- ANSI multicode

• **Interface**

- Serial, asynchronous
- EIA RS-232C, CCITT V.24/V.28
- EIA RS-422, CCITT V.11 (optional)
- Current loop 20mA. (optional)

• **Data flow control**

- XON/XOFF protocol
- HW flow control

• **Baud rate**

- Up to 38400 baud software selectable
- The receive and transmit baud rate can be different

• **Data format**

- Standard software selectable formats (7-8 bits, parity, stop bits)

• **Refresh**

- 60 Hz
- Non-interlaced raster scan

• **Display format**

- 24 lines, 80 or 132 characters/line
- +1 line status line
- +1 line user line
- Jump or smooth scroll

• **Characters fonts**

- 9x12 character cell, 132 character/line mode.
- 15x12 character cell, 80 characters/line mode.

• **Character generation**

- Full programmable character cell
- Downloadable characters
- Double height, double width characters

• **Video attributes**

- Inverse
- Blinking
- Half bright
- Blank
- Underline

• **Character sets**

- 512 characters capacity
- Standard ASCII set
- Line drawing set
- National characters

• **Cursor**

- Blinking or not blinking
- Underline or block type

ENVIRONMENT

· Temperature range

- Operating temperature: +5°C to +40°C
- Storage temperature: -10°C to + 50°C

· Relative humidity

- 40% - 95% (no condensation)

· Air pressure

- 950 - 1050 mbar

· Main power supply

- 90-132 VAC, 47-63 Hz or
- 180-265 VAC, 47-63 Hz

· Power consumption

- Max. 32 W

PHYSICAL SPECIFICATIONS

· Weight

- Display: 8 kg
- Keyboard: 1.5 kg (Wyse-like)
  1.7 kg (VT-220-like)
  1.65 kg (IBM Enhanced PC-style)

· Dimension (width x depth x height)

- Display : 319x315x345 mm
- Keyboard: 444x181x 30 mm
  (Wyse-like)
  533x181x30 mm
  (VT-220-like)
  490x181x30 mm
  (IBM Enhanced PC-style)

PRINTER INTERFACE

· Type

- Serial, asynchronous
- EIA RS 232C, CCITT V.24/V.28

· Data flow control

- Printer busy signal checking
- XON/XOFF protocol

· Baud rate

- Up to 19200 baud software selectable

· Data format

- Standard software selectable formats (data bits, parity, stop bits)

KEYBOARD

- Wyse-like or
  DEC VT-220-like or
  IBM Enhanced PC-style keyboard
- Low profile DIN standard
- Coiled cord cable
- Keyboard tilt mechanism
- Microprocessor controlled
- Serial data stream
- Optional national keytops

CONTROLS

- Main power switch
- Brightness control

OPTIONS

- Bar Code Reader
- Credit Card Reader

Power on and off

After verifying the terminal is properly installed, you are ready to proceed.

1. Turn on the terminal by pushing the ON/OFF switch.

2. The green LED indicates the power is on.

3. Watch for the cursor to appear in the upper left-hand corner of the screen.

4. Adjust the screen brightness with the intensity control on the front lower side of the video module. Turn it right for high contrast and left for dim.

5. Swivel the video module left or right and tilt it up or down, until you find your personal comfort level. The recommended height for the centre of the screen is 10 to 20 degrees below eye level. The keyboard should be at or below elbow height.

6. To shut off the terminal, just push the ON/OFF switch again. Do not switch on the terminal again for 5 seconds.

INSTALLATION

Unpacking and installing

Remove the terminal carefully from the container. Save all packing material in case the terminal must be shipped again. After unpacking, check whether the terminal is damaged. Immediately notify the transfer company if there is any damage.

Caution: Usually the packing ensure sufficient protection, but if the CRT is broken be very careful when removing the broken parts, because the inside of the CRT is covered with poisonous phosphor. Wear gloves.

Environment

The CHAMELEON videoterminal can be operated in the usual office environment and does not require air-conditioning, though low temperature combined with low humidity may cause problems because of the static electricity. Do not cover the top of the terminal in any way because the terminal may be overheated.

Installing the terminal

1. Place the terminal on the table.

2. Check if the terminal is switched off.

3. Connect the keyboard cable to its receptacle on the back of the video module.

4. If you have 115 VAC power supply refer to the next section.

5. At first connect the power cord to its socket on the back of the video module then plug it into a grounded electrical outlet.

6. Connect the host computer communication cable to the modem port. Check the proper connector pin assignment.

7. Connect the printer communication cable, if required, to the printer port.

Connecting the printer

Any kind of serial printer can be connected to the terminal through the printer port (9-pin D type connector). The communication mode and speed can be selected in set-up. Before connecting the printer switch off the power.

The keyboard connection

The keyboard can be connected to the video module through a 4 pin telephone jack.

Maintenance

Cleaning

Before cleaning switch off the terminal and disconnect the power. Regular cleaning increases the reliability of the videoterminal. The video module and the keyboard can be cleaned with a soft cloth and any kind of cleaner. To clean the CRT use any kind of window-cleaner.

Trouble-shooting

This section summarise the basic faults of the system which can be repaired without special knowledge. If you unable to repair your terminal using this short list consult specialist.

Operating at 115 VAC

The power supply unit inside the video module is set to 230 VAC mode in the factory. That means it can operate from 180 to 265 VAC without modification. The terminal can operate at 115 VAC (from 90 to 132 VAC) too but it requires some modification.

If you have 115 VAC power supply:

1. Turn the video module CRT downwards and unscrew the four screw fixing the cover. Pull upwards the cover with the tilt-swivel mechanism and remove it.

2. Switch the 230/115 VAC jumper to 115 VAC position.

3. Put together the terminal in reverse order.

4. Connect the videoterminal to the power and switch it on.

Caution: Removing the cover while the terminal is under power is dangerous.

Connection to the host computer

The CHAMELEON videoterminal can be connected to the host computer through a 25-pin D type connector or through 15-pin D type connector. This connection can be made through modem or without modem. The communication mode and speed can be selected in set-up. Before connecting the terminal to the host switch off the power.

RS-232C (V.24) and RS-422 (V.11) interface

Through an RS-232C cable the terminal can be connected to the computer or to the modem not farther than 15 meters (50 feet). If your computer is located farter than that use the RS-423 interface or use modem.

Trouble-shooting table

Fault	Possible cause	Repair instr.
No picture.	Power failure.	Check power.
	Power disconnected.	Connect power.
	Terminal is switched off.	Switch on the terminal.
	Fuse blown.	Replace it.
	Intensity turned dim.	Adjust intensity.
Power-on LED does not light.	Fuse blown.	Replace it.
Interface test error.	Interface cable is not connected.	Connect it.
	Interface cable failure or improper cable.	Replace it with a new one.
Printer interface test error.	Interface cable is not connected.	Connect it.
	Interface cable failure or improper cable.	Replace it with a new one.

Checking and replacing the fuses

1. Switch off the terminal and disconnect it from the power supply.

2. Turn the video module CRT downwards and unscrew the four screws fixing the cover. Pull upwards the cover with the tilt-swivel mechanism and remove it.

3. The fuses are mounted on the power connection and filter panel just behind the power receptacle.

4. Check and if necessary replace the 250V/2A fuses.

5. Put together the terminal in reverse order.

6. Connect the videoterminal to the power and switch it on.

Caution: Removing the cover while the terminal is under power is dangerous.

V.24 Communication Port Interface Signals

Pin	Function	Mn	EIA/CCITT/DIN and direction	Description
2	Transmit data	TXD	BA/103/D1 ---->	From terminal. Transmits serial data.
3	Received data	RXD	BB/104/D2 <----	To terminal. Receives serial data.
4	Request to send	RTS	CA/105/S2 ---->	From terminal. When on, puts the modem in transmit mode.
5	Clear to send	CTS	CB/106/M2 <----	To terminal. When on, tells the terminal that the modem is ready to transmit.
6	Data set ready	DSR	CC/107/M1 <----	To terminal. When on, tells the terminal that the modem is ready to exchange RTS, CTS.
7	Signal ground	SGND	AB/102/E2 <---->	Serves as common ground reference potential for all other signals.

COMMUNICATION

GENERAL

This chapter describes how the CHAMELEON video-terminal communicates with the host computer and the printer.

The terminal uses two full-duplex asynchronous lines, and can operate at ten possible transmit/receive rates. You can set the required the transmit/receive rates in set-up for both the most computer (Host Port Set-up screen) and the printer (Printer Port Set-up screen).

The terminal operates in accordance with the following international standards:

EIA RS-232C, CCITT V.24/V.28
EIA RS-422, CCITT V.11

You can connect the terminal directly to a local host computer with a cable or indirectly to a remote host computer through telephone line, using a modem.

HOST AND PRINTER PORT INTERFACES

The CHAMELEON has two asynchronous serial ports. One port is for communication with the host computer, and the other is for communication with the printer.

There are two host port connectors:

- a 25-pin connector that can connect the terminal to a local or a remote host computer though a V.24 interface.
- a 15-pin connector that can connect the terminal to a local or a remote host computer through V.11 interface.

The printer port has one connector.

- a 9-pin connector that connects the terminal to a local printer.

Optional V.11 Communication Port Interface Sign

Pin	Function	Mn	EIA/CCITT/DIN and direction	Description
10 3	Transmit data	TXD	BA/103/D1 ---->	From terminal. Transmits serial data.
4 11	Received data	RXD	BB/104/D2 <----	To terminal. Receives serial data.
9 2	Request to send	RTS	CA/105/S2 ---->	From videoterminal. Places the modem in Transmit Mode.
12 5	Clear to send	CTS	CB/106/M2 <----	To terminal. Tells the terminal that the modem is ready to send.
7 14	Data set ready	DSR	CC/107/M1 <----	To terminal. When on, tells the terminal that the modem is in ready to exchange RTS, CTS.
1 8	Signal ground	SGND	AB/102/E2 <---->	Serves as common ground reference potential for all other signals.

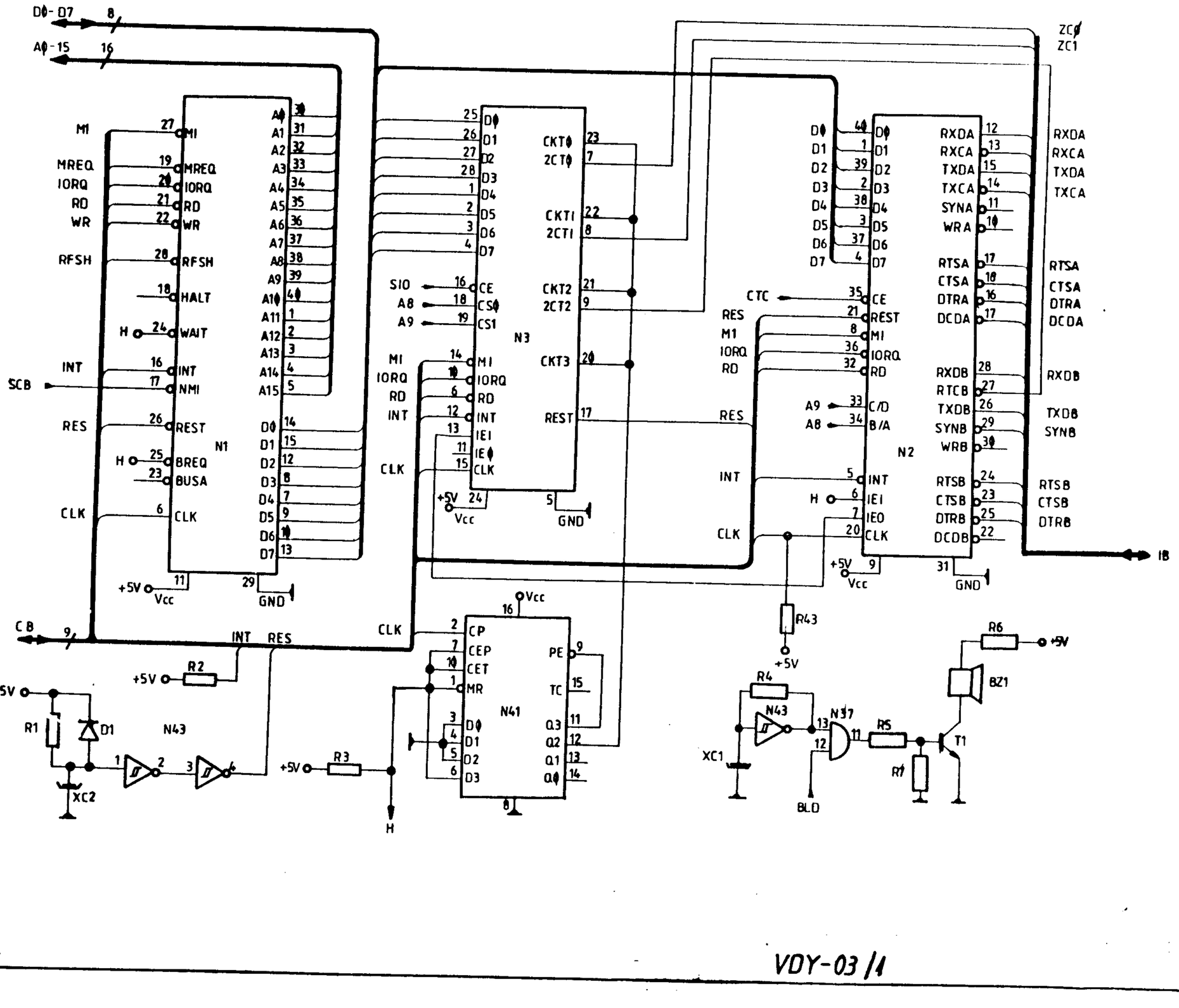
Keyboard Connector Signals

Name	Signal	Pin
Keyboard output data	TTL	2
Keyboard input data	TTL	4
Signal ground	0V	1
Power	+5V	3

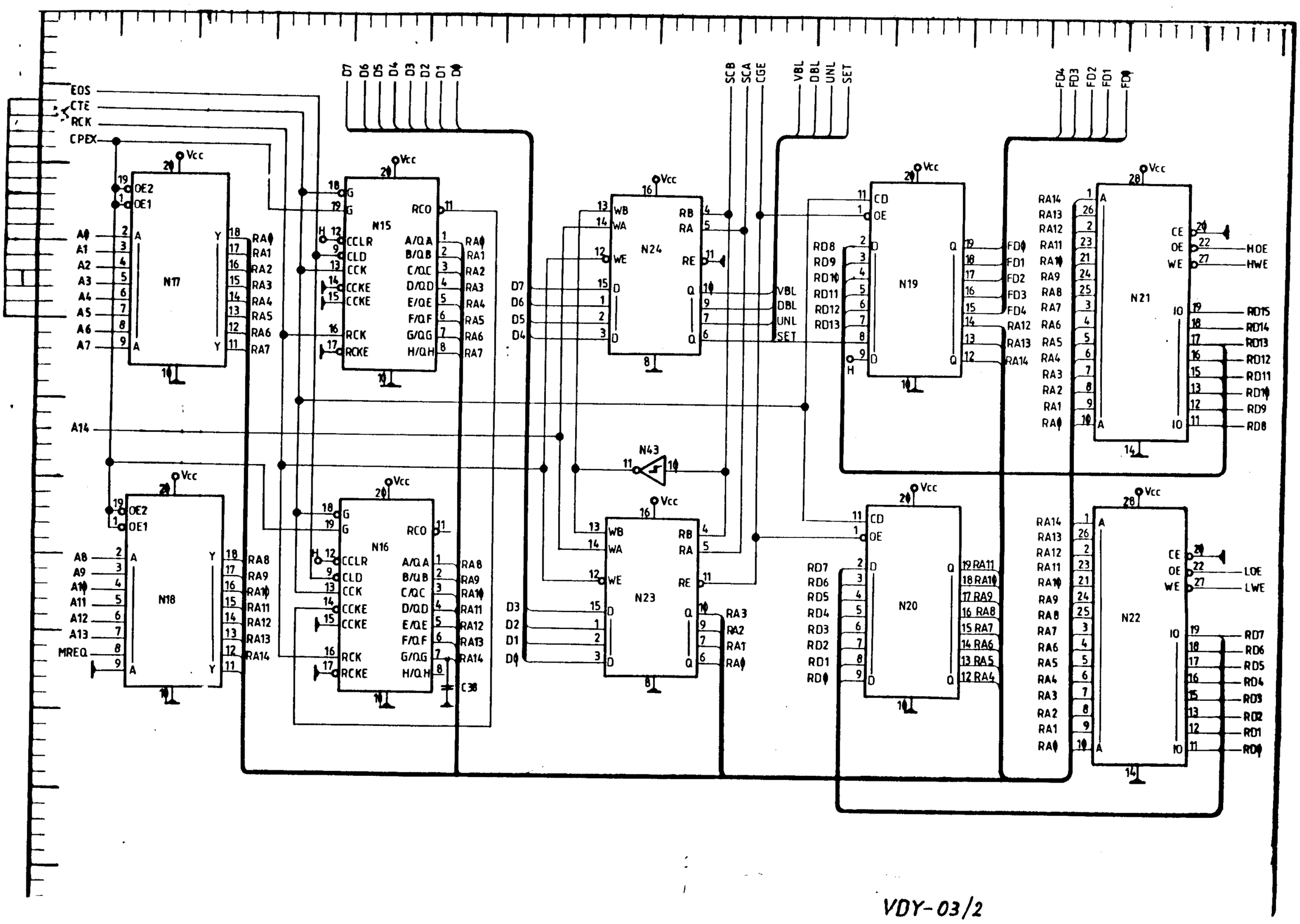
Pin	Function	Mn	EIA/CCITT/DIN and direction	Description
8	Carrier detect	CD	CF/109/M5 <----	To videoterminal. When active marks that the received signal can be decoded. When off marks that there is no signal, or it is not good enough for decoding.
20	Data terminal ready	DTR	CD/108.2/S1.2 ---->	From videoterminal. When on, tells the modem that the terminal is ready to transmit or receive.

Printer Port Interface Signals

Pin	Function	Mn	EIA/CCITT/DIN and direction	Description
2	Transmit data	TXD	BA/103/D1 ---->	From videoterminal. Transmits serial data.
3	Receive data	RXD	BB/104/D2 <----	To videoterminal. Receives serial characters for flow control.
4	Request to send	RTS	CA/105/S2 ---->	From videoterminal. On when the terminal is on.
6	Data set ready	DSR	CC/107/M1 <----	To videoterminal. Receives DTR on this line.
7	Signal ground	SGND	AB/102/E2 <--->	Common ground reference for all signals.



VDY-03/1



VDY-03/2

VDY-03/3

VDY-03/4

CH3

V24 PORT

DTRB

DCDA

CTSA

TXCA

RXCA

ZC1

ZC0

J2

INT/EXT CLOCK

SYNB

RXDA

-12V

R18

DSR

CTS

TC

RC

RXD

DCD

RTS

DTR

TXD

N11

N10

N9

N8

N5

XC4

R19

R20

RTSA

DTRA

TXDA

OSR

CTS

RXD

CK

N7

R21

+5V

R23

R22

J3

V11 PORT

CH2

RTSA

TXDA

N6

RTSB

TXDB

RXDB

CTSB

18

XC5

DSRP

RXDP

TXDP

DTRP

N4

Printer Port CP1

+5V

C1 - C21

XC6

+12V

-12V

C23

C22

10,11

6,7

12

CP2 MONITOR

D5

D6

R35

R25

T4

24

+12V

OP1

D7

11

R28

R26

R27

18

R29

9

R30

OP2

T6

T7

R31

T5

TXDA

D8

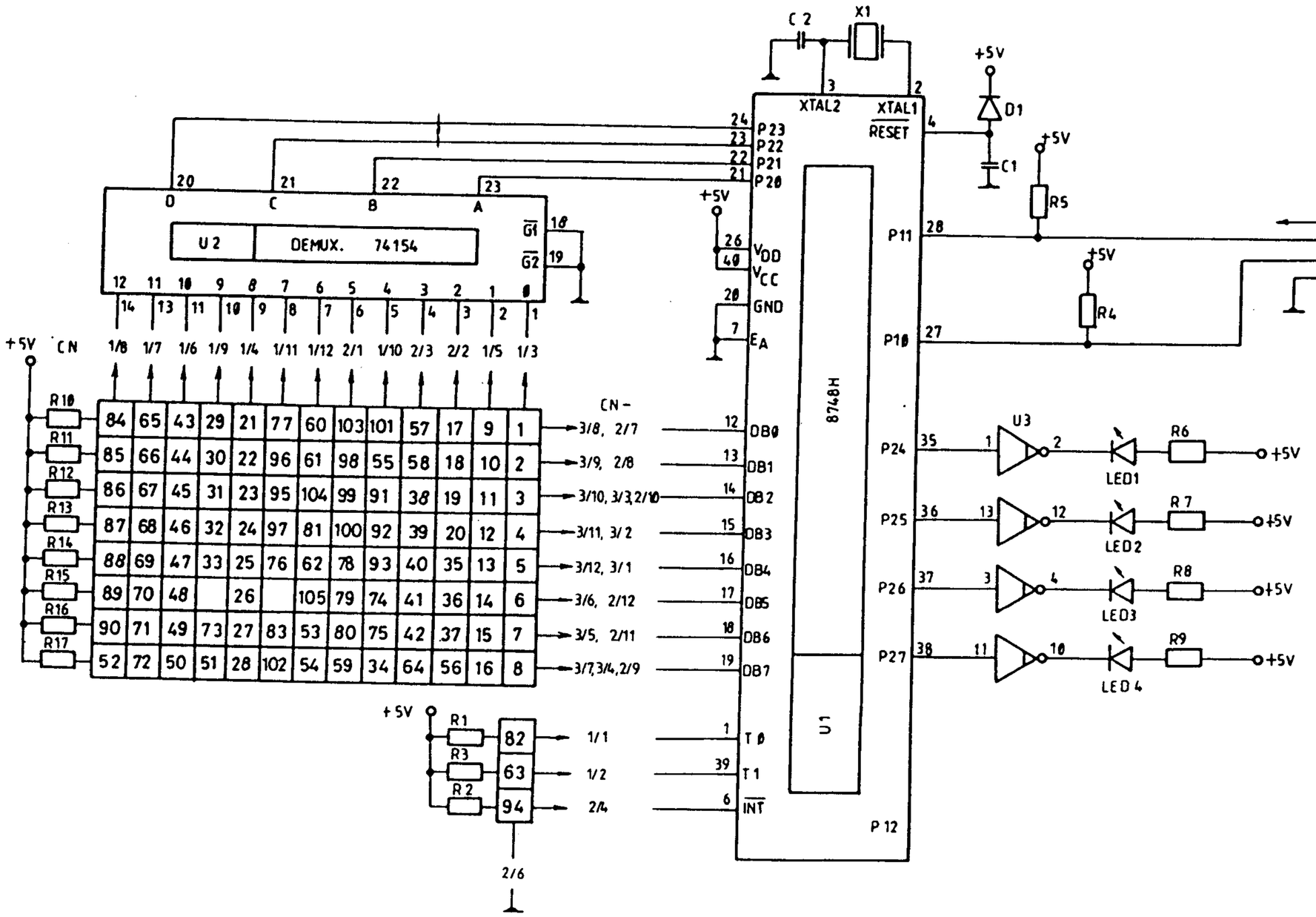
R32

10

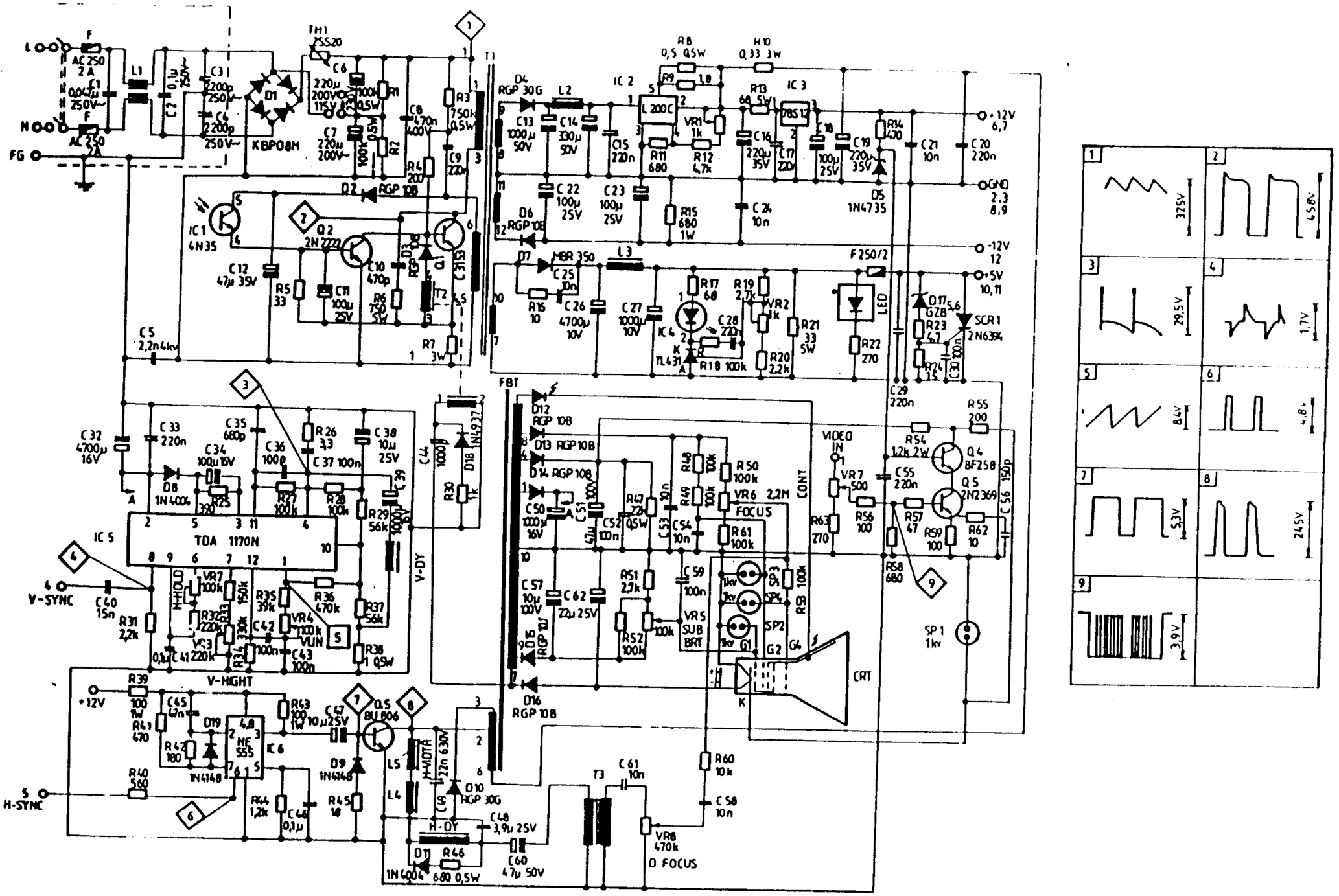
CURRENT LOOP

CH3

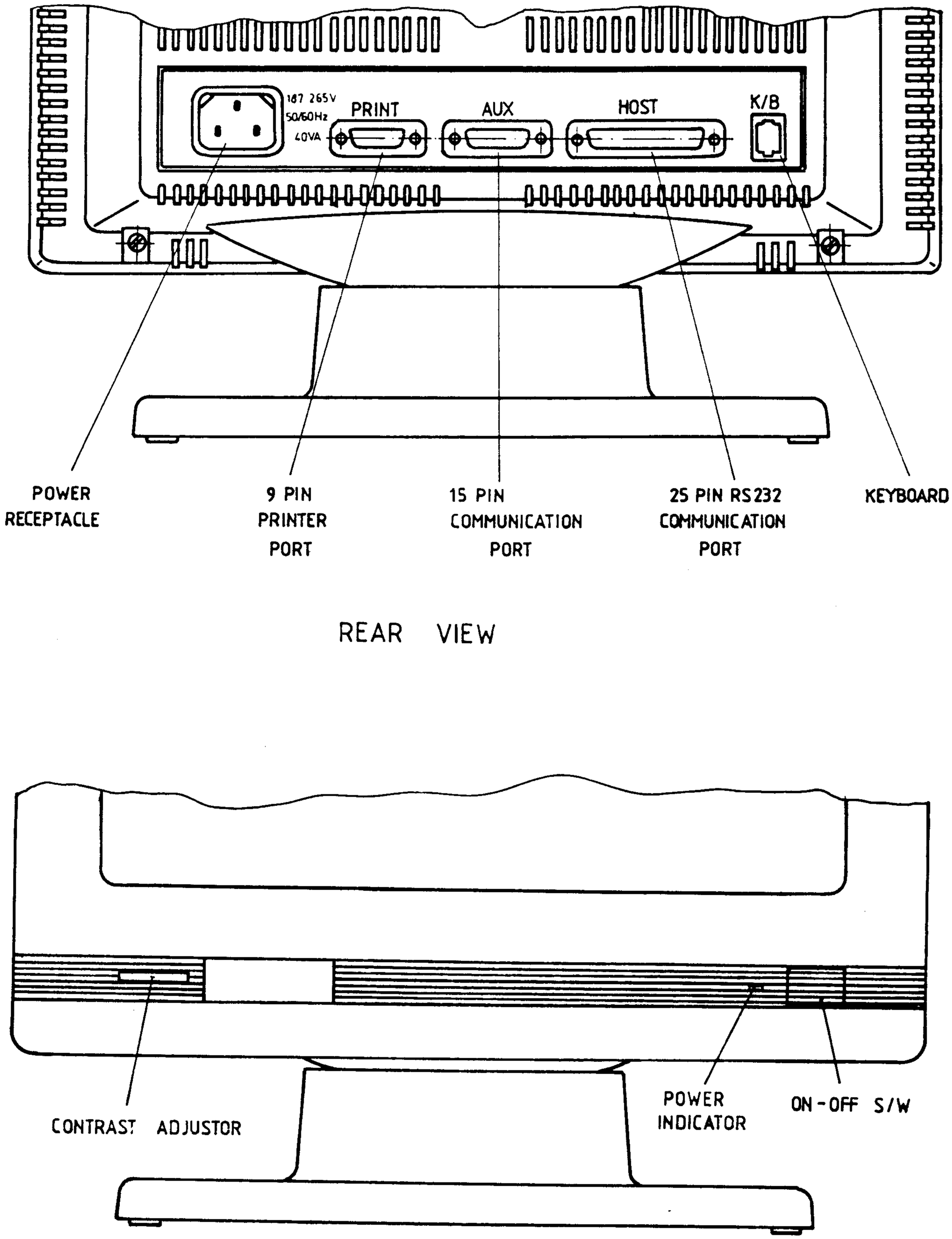
VDY-03/5



SD 220 KEYBOARD



MONITOR-POWER SUPPLY



REAR VIEW

FRONT VIEW