

User's Manual



CD 800

Quad-Standard Decoder

Precautions

Safety Instructions • English



This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.



This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français



Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).



Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conservé les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Éviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch



Dieses Symbol soll den Benutzer auf wichtige Anleitungen zur Bedienung und Wartung (Instandhaltung) in der Dokumentation hinweisen, die im Lieferumfang dieses Gerätes enthalten ist.



Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits- und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Sicherheitsanleitungen sollten aufbewahrt werden, damit Sie später darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español



Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.



Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaucion

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean específicamente recomendados por el fabricante, ya que podrían implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avertissement

Alimentations • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de le contourner ni de la désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas éraclés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au reut les batteries usagées conformément aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Stift oder Kontakt ist für einen Erdschluß, und stellt eine Sicherheitsfunktion dar, die sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes oder aus dem Desktop-Strommodul (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Im Inneren des Gerätes sind keine Teile enthalten, die vom Benutzer gewartet werden können. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst zu warten, da beim Öffnen oder Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags oder andere Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Litium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie nur durch die gleiche oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgung der verbrauchten Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearla ni eliminarla.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/ mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Desachar las baterías usadas siguiendo las instrucciones del fabricante.

FCC Class A Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Note: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.

Extron's Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of two years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

Extron Electronics

1230 South Lewis Street

Anaheim, CA 92805, U.S.A.

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions or non-Extron authorized modification to the product.

If it has been determined that the product is defective, please call Extron and ask for an Applications Engineer at (714) 491-1500 to receive an RA# (Return Authorization number). This will begin the repair process as quickly as possible.

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state, and that some provisions of this warranty may not apply to you.

Table of Contents

Chapter 1 • Introduction	1-1
About This Manual	1-2
About the CD 800	1-2
Features	1-2
Chapter 2 • Controls and Installation	2-1
Front and Rear Panels	2-2
Front panel features	2-2
Rear panel features	2-3
Installation	2-5
Overview	2-5
Mounting the CD 800	2-5
Cabling	2-7
Cabling for video loopback	2-8
Chapter 3 • Remote Operation	3-1
RS-232 Port	3-2
Host-to-CD 800 instructions	3-2
Using the command/response table	3-2
Time-out	3-2
Command/response table	3-3
Error responses	3-4
CD 800-initiated messages	3-4
Control Software for Windows®	3-5
Installing the software	3-5
Using the software	3-5
Remote Contact Closure	3-6
Appendix • Specifications	A-1



1

Chapter One

Introduction

About This Manual

About the CD 800

Features

About This Manual

This manual contains information about the CD 800 quad-standard decoder and on how to operate and configure it.

About the CD 800

The CD 800 is a high-resolution, quad-standard video decoder with a three-line adaptive comb filter. It converts NTSC, PAL, or SECAM standard interlaced S-video or composite video signals to non-interlaced RGBHV or RGBS video output. This allows the connection of devices such as a VCR, S-VHS, or Super 8 tape deck, camcorder, or television receiver to a presentation device such as a data monitor or large screen projector.

Features

Quad-standard decoder — The CD 800 converts interlaced S-video and composite video signals that use international analog standards. These include NTSC 3.58, NTSC 4.43, PAL, and SECAM. Front panel LEDs indicate which standard is active.

Three-line adaptive comb filter — Comb filtering yields an RGB signal that is free of noise and gives a clean, clear picture.

Picture controls — Color, tint (hue), contrast (white level), and horizontal shift (centering) features are adjusted using knobs on the front panel or through the RS-232 control program.

Automatic memory — Picture control settings are automatically saved for composite video (input 1) and for S-video (input 2) in two separate memories. The settings are recalled automatically when an input is selected.

RGBHV, RGBS or RGsB outputs — The CD 800 decoder outputs RGB signals with either separate horizontal and vertical sync signals (RGBHV), composite sync (RGBS), or sync on green (RGsB).

RS-232 control — An RS-232 port allows the CD 800 to be controlled by a remote computer or other host. RS-232 control uses Extron's Simple Instruction Set™ (SIS™).

Contact closure — Inputs can be selected via a contact closure keypad connected to the RS-232 port.

Simple Instruction Set — The SIS program lets a host computer control the CD 800 with simple commands.

Control software for Windows® — Extron's Windows-based control software provides a graphical way to set up and control the CD 800 with an on-screen control panel. It provides remote selection of inputs and picture adjustments, and stores settings for future use.

Auto-switching — When set for auto-switch mode, the CD 800 automatically detects active incoming sync signals and selects (switches to) that input. If both inputs are active, the default is input #2 (S-video).

Sync polarity output selection — Two rear panel DIP switches allow the polarity of horizontal and vertical sync signals to be set separately. This allows for compatibility with most display devices/projectors.

Serration pulse removal — LCD, DLP, and plasma display devices don't need pulses to synchronize retracing. A rear panel DIP switch causes the serration pulses to be stripped from the vertical blanking portion of a signal.

Rack mount option — The CD 800 is 1U high and half-rack wide. It can be installed on a standard rack shelf by using an Extron 1U Shelf Rack, P/N 60-190-01.

Auto-switching power supply — An internal power supply with an IEC connector makes power cord connection easy. It can be used internationally with any power input from 110VAC to 240VAC at 50 or 60 Hz. It adapts automatically to the input type.



Chapter Two

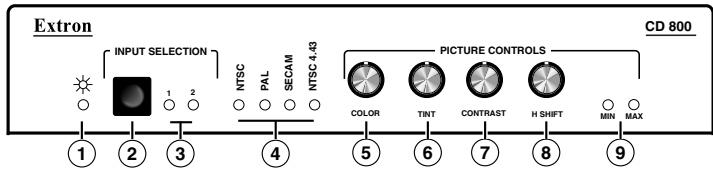
Controls and Installation

Front and Rear Panels

Installation

Front and Rear Panels

Front panel features



- ① **Power indicator LED** — Lights to indicate the unit is receiving power.
- ② **Input selection button** — Selects either the composite video input source or the S-video input source.
- ③ **Input selection LEDs** — Indicate the selected video input. LED 1: composite video. LED 2: S-video.
- ④ **Input signal format LEDs** — Light to indicate the incoming signal type: NTSC 3.58, PAL, SECAM, or NTSC 4.43.

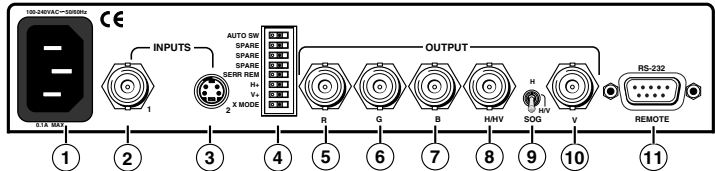
NOTE The CD 800's memory stores two sets of control settings: one for S-video input, and one for composite video input. For the next four controls, all front panel settings are saved automatically to memory for each input. When using RS-232, you can save the settings to a file for future use.

- ⑤ **Color knob** — Adjusts the displayed color.
- ⑥ **Tint knob** — Adjusts the tint (hue) level.
- ⑦ **Contrast knob** — Increases or decreases the contrast (white level).
- ⑧ **H-shift knob** — Shifts the image left or right to center it on the display screen.
- ⑨ **Min/Max LEDs** — Light when a picture control has been adjusted to its minimum (Min) or maximum (Max) limit. The LED continues to blink if the knob is rotated past the limit. Both LEDs blink once, simultaneously, when a control passes through its default value.

If a control does not apply to the video format being used, such as if the tint control knob is rotated when the input signal is PAL video, both LEDs blink

simultaneously and continuously as the control knob is rotated.

Rear panel features



- ① **IEC AC power connector** — Use this with any power source from 100VAC to 240VAC, 50 Hz or 60 Hz.
- ② **Input 1** — Connect a composite video source to this BNC input connector.
- ③ **Input 2** — Connect an S-video source to this 4-pin mini-DIN female connector.
- ④ **DIP switches** — These eight DIP switches, numbered 1 to 8 from top to bottom, function as follows:

1 — AUTO SW (auto-switching)

On — The CD 800 automatically switches to the input that has a sync signal present. If sync signals are present at both inputs, S-video is selected as the default input.

NOTE Auto-switching is not available in SECAM.

Off — You must select the input from the front panel button, through an RS-232 program, or by a contact closure remote control device.

2, 3, and 4 — Spare (no function)

5 — SERR (serration pulse removal)

Digital displays, such as LCD, DLP, and plasma displays, must have the serration pulses removed from the sync signal in order to display images properly.

NOTE Flagging or bending at the top of the video image is a sign that the serration pulses should be removed.

On — Left: Serration pulses are removed from the vertical sync interval.

Off — Right: Serration pulses pass through to the output.

6 — H+ (positive H sync output polarity)

- On — Horizontal sync polarity is positive.
- Off — Horizontal sync polarity is negative.

7 — V+ (positive V sync output polarity)

- On — Sync polarity is positive.
- Off — Sync polarity is negative.

8 — X MODE (executive mode)

- On — Front panel picture controls are disabled, preventing any adjustments. Both Min and Max LEDs light in executive mode.
- Off — Adjustments to picture controls can be made via the front panel.

⑤ **Red (R)** — BNC connector for red video output.

⑥ **Green (G)** — BNC connector for green video output.

⑦ **Blue (B)** — BNC connector for blue video output.

⑧ **H/HV** — BNC female connector for either separate horizontal (H) sync if 5-wire (RGBHV), or composite sync (HV) for 4-wire (RGSB). See Sync switch (9).

⑨ **Sync switch** — Set the 3-position switch to one of the following:

H — Top position, for RGBHV output, or 5-wire output. The horizontal sync is on the H connector, and vertical sync is on the V connector.

H/V — Middle position, for RGSB output, or 4-wire composite output. Horizontal and vertical sync are combined on the single H/HV output connector.

SOG — Bottom position, for SOG (RGSB), or 3-wire output. Horizontal and vertical sync are on the green video signal (G) output.

⑩ **V** — Used for separate vertical sync output when the Sync switch (9) is in the H position.

⑪ **RS-232 and contact closure control** — This 9-pin D female connector is used to attach a computer or other host, or contact closure device, for remote control of the CD 800.

NOTE See page 3-2 for information about the RS-232 port, and 3-6 for information about the remote contact closure control.

Installation

Overview

To install and set up the CD 800, follow these basic steps:

- 1 Turn all of the equipment off. Make sure that the video sources (composite and/or S-video device), the CD 800, the output device (projector or monitor) and contact closure control device are turned off and disconnected from the power source.
- 2 Mount the CD 800. See “Mounting the CD 800” below.
- 3 Attach the cables. See “Cabling” on page 2-7 or, if you are connecting the CD 800 to a system switcher in video loopback mode, see “Cabling for video loopback” on page 2-8.
- 4 Connect power cords and turn on the devices in the following order: output device, contact closure controller, CD 800, and input devices.
- 5 Select an input from the front panel buttons or the contact closure controller.
- 6 The image should appear. If it does not, ensure that all devices are plugged in and receiving power. Check the cabling and make adjustments as needed. Select a different input to check for an image. Refer to “Troubleshooting” in this chapter.

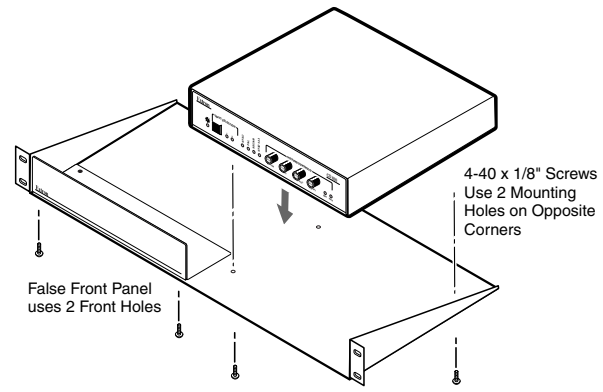
Mounting the CD 800

The CD 800 is one unit (1U) high and one-half unit wide. It can be used as a freestanding unit or installed on a 1U universal rack shelf (Extron part #60-190-01).

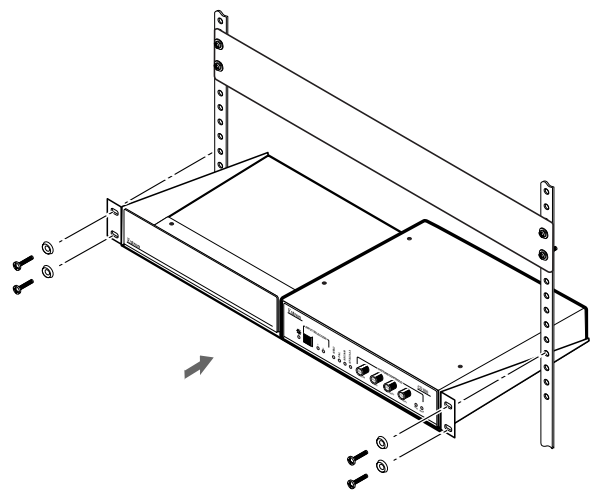
Follow these steps to install the CD 800 on a rack shelf:

1. Remove rubber feet from the bottom of the CD 800.
2. Place the CD 800 on the rack shelf. Align the front of the CD 800 with the front of the shelf, and align the threaded holes on the bottom of the decoder with the holes in the rack shelf.

3. Attach the CD 800 to the rack shelf with two 4-40 x 1/8" screws. Insert the screws from the underside of the shelf, and fasten them securely through opposite corners as shown in the illustration below.



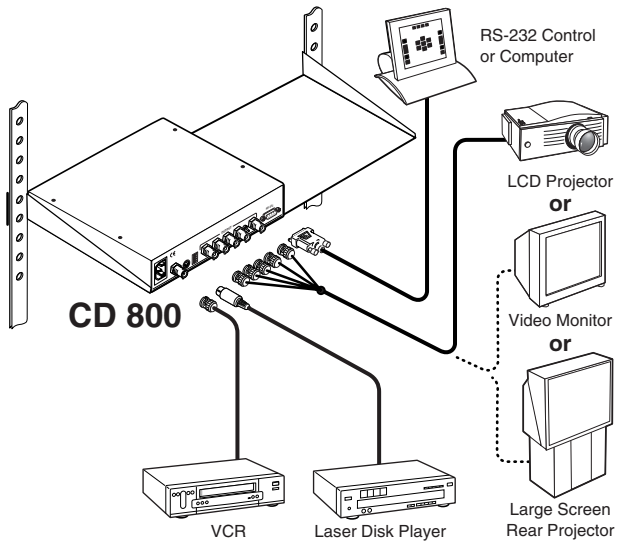
4. A false front panel or a second 1/2-rack-width device can be attached to the other side of the shelf.
5. Attach the rack shelf to the rack using four 10-32 x 3/4" bolts. Insert the bolts through #10 beveled (dress) washers, then through the holes in the ears of the rack, as shown in the illustration below.



Cabling

The CD accepts S-video and composite video input. You can connect one device of each type to the appropriate input, and you can connect one RGB display device to the output. You can also connect an RS-232 control device.

The illustration below shows how to connect the CD 800 to various devices.



1. Connect a composite video source to input connector 1 on the rear panel.
2. Connect an S-video source to input connector 2 on the rear panel.
3. Use BNC connectors to attach the CD 800 to a projector or other device.

RGsB — If cables are connected to the red, green, and blue channels only, the format is sync on green.

R G B ~~H/HV~~ ~~V~~

RGsB

RGBS — If cables are connected to the R, G, B, and H/HV (composite sync) channels, the format is composite sync.

R G B H/HV ~~V~~

RGBS

RGBHV — If cables are connected to the R, G, B, H/HV, and V channels, the format is separate horizontal and vertical sync.

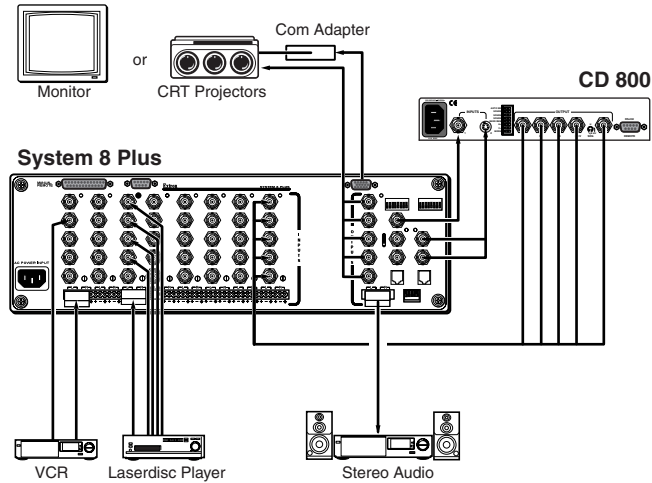
R G B H/HV V

RGBHV

Cabling for video loopback

The CD 800 can be used with a system switcher in video loopback (VLB) mode. Details of this operation are included in Extron's System 8/10 Plus switcher manual.

The composite video, and/or the S-video outputs from the system switcher become the inputs for the CD 800. The RGB output from the CD 800 then connects to a special input on the system switcher. See the typical video loopback setup below.



The CD 800 decodes all composite video or S-video signals that enter the system switcher. This saves the cost of separate decoders for each source.



CD 800

Chapter Three

Remote Operation

RS-232 Port

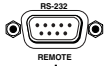
Control Software for Windows

Remote Contact Closure

RS-232 Port

The CD 800 can be controlled by a host device/computer through the RS-232 port.

The RS-232 connector is a 9-pin D female connector with the following pin designations:



Pin	Usage	Function
1	—	No connection
2	Tx	Transmit data
3	Rx	Receive data
4	—	No connection
5	Gnd	Ground
6	Contact closure	Input 1 (See page 3-6.)
7	Contact closure	Input 2
8	Contact closure	Tally 1
9	Contact closure	Tally 2

The RS-232 protocol is 9600 baud, 8-bit, 1 stop bit, and no parity. For remote contact closure operation, see “Remote Contact Closure” on page 3-6.

Host-to-CD 800 instructions

When the CD 800 receives a command and determines that it is valid, it executes the command and sends a response to the controlling (host) device. If the switcher determines that the command is invalid, an error response is returned to the host. All responses from the decoder to the host begin and end with a carriage return and a line feed (CR/LF).

Using the command/response table

The table on the next page lists the commands that the CD 800 recognizes as valid, and the responses that are returned to the host. The Command Description column defines the command, describes the results of executing the command, or displays the response. An example of each command is shown to the right of the Command Description column.

Time-out

A delay of 10 or more seconds between command sequence characters causes a time-out. The command operation is stopped, and there is no indication that a time-out occurred.

Command/response table

Definitions and Abbreviations: ↵ = CR/LF · = space [X1] = 1 or 2 (input #) [X2] = 1 – 127 [X3] = 0 or 1, 0 = Off, 1 = On [X4] = Input type (T), 0 = no input, 1 = NTSC 3.58, 2 = PAL, 3 = NTSC 4.43, 4 = SECAM [X5] = Software version x.xx [X6] = 1 – 63				Example Commands and Responses		
Command ASCII	Response HEX	Response to Host	Command Description	Command	Response	Action/Explanation
[X1]!	[X1]21 _h	C[X1] ↵	Select input channel (C) [X1]	2!	C2 ↵	Select input channel #2
i	69 _h	(Same as I below)	Information request	i		C2-T1-Col65-Tin70-Con100-Hph39-Frz0 ↵
I	49 _h	C[X1]·T[X4]·Col[X2]·Tin[X2]·C-Con[X2]·Hph[X6]·Frz[X3] ↵				
n	6E _h	(Same as N below)	Request for part number	n		
N	4E _h	N60-267-01 ↵	Request for part number			60-267-01 = CD 800
q	71 _h	(Same as Q below)	Query software version	q	QVER1.23 ↵	(1.23 is example only)
Q	51 _h	QVER[X5] ↵	Query software version	Q	QVER1.23 ↵	Software version 1.23
[X2]C	[X2]43 _h	Col[X2] ↵	Set color value (Col) to [X2]	25C	Col25 ↵	Color value to 25
{C	7B _h 43 _h	Col[X2] ↵	Increment color value	{C	Col26 ↵	Color value + 1
}C	7D _h 43 _h	Col[X2] ↵	Decrement color value	}C	Col25 ↵	Color value – 1
[X2]T	[X2]54 _h	Tin[X2] ↵	Set tint value (Tin) to [X2]	32T	Tin32 ↵	Tint value to 32
{T	7B _h 54 _h	Tin[X2] ↵	Increment tint value	{T	Tin33 ↵	Tint value + 1
}T	7D _h 54 _h	Tin[X2] ↵	Decrement tint value	}T	Tin32 ↵	Tint value – 1
[X2]^	[X2]5E _h	Con[X2] ↵	Set contrast value (Con) to [X2]	99^	Con99 ↵	Contrast value to 99
{^	7B _h 5E _h	Con[X2] ↵	Increment contrast value	{^	Con100 ↵	Contrast value + 1
}^	7D _h 5E _h	Con[X2] ↵	Decrement contrast value	}^	Con99 ↵	Contrast value – 1
[X6]H	[X6]48 _h	Hph[X6] ↵	Set horizontal phase value (Hph) to [X6]	39H	Hph39 ↵	Set H. Phase Value to 39
{H	7B _h 48 _h	Hph[X6] ↵	Increment Hph value	{H	Hph40 ↵	Horiz. Phase Value + 1
}H	7D _h 48 _h	Hph[X6] ↵	Decrement Hph value	}H	Hph39 ↵	Horiz. Phase Value – 1
		Exx ↵	Error response			see “Error Responses” – next page

Error responses

If the CD 800 detects an error in a command, it returns one of the following error responses to the host.

- E01 ↩ Invalid input channel number (out of range)
- E06 ↩ Auto-switch mode active (DIP switch #1 is enabled)
- E10 ↩ Invalid command (command received is invalid)
- E13 ↩ Invalid value (out of range)

CD 800-initiated messages

When a local event takes place, such as a front panel operation or an error condition, the CD 800 responds by sending a message to the host. The initiated messages are listed below (underlined to identify the actual message).

The following message is initiated by the CD 800 when it is first powered on:

(C) Copyright 1999, Extron Electronics CD 800, V x.xx ↩
x.xx is the software version number

The following message is sent by the CD 800 when there is a change in the selected input or a picture control setting:

Reconfig ↩

The following CD 800-initiated messages indicate an RS-232 communication error. Possible causes are RS-232 connection problems or an incorrect baud rate.

Call Extron Technical Support if any of these errors persists.

RS-232 - Overrun ↩

RS-232 - Noise ↩

RS-232 - Framing ↩

RS-232 - Overflow ↩

RAM Test Failed ↩

ROM Checksum Failed ↩

Serial EEPROM Checksum Failed ↩

6811 EEPROM Checksum Failed ↩

New 6811 Installed ↩

New Serial EEPROM Installed ↩

Invalid Jumpers - Unknown - xxxx ↩

Factory Defaults Reset on Channel #1 ↩

Factory Defaults Reset on Channel #2 ↩

Control Software for Windows

The Signal Enhancement Products Control Program, used by the CD 800, is compatible with Windows 3.1, 3.11, 95/98, and NT. It provides remote control of decoder settings.

Installing the software

The program is contained on a single 3.5" diskette; it can run from the floppy drive. It is usually more convenient to load and run the program from the hard drive.

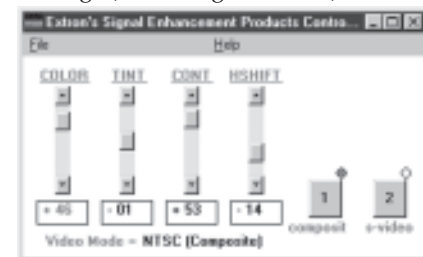
To install the software onto the hard drive, run SETUP.EXE from the floppy disk, and follow the instructions that appear on the screen. The program occupies approximately 1 MB (megabyte) of hard-drive space.

By default, the installation creates a C:\S_ENHANC directory, and it places two icons (Signal Enhancement Products Control Pgm and Signal Enhancement Products Help) in a group or folder named "Extron Electronics".

Using the software

1. To run the Signal Enhancement Products Control Program, double-click on the Signal Enhancement Products Control Pgm icon in the Extron Electronics group or folder. The Comm menu appears on the screen.
2. Click on the comm port that is attached to the CD 800 RS-232 port.

The Extron Signal Enhancement Products Control Program window appears. It displays the current settings (see the figure below).



3. Using normal Windows controls, you can perform the same adjustments as from the front panel.

For information about program features, you can access the Help program in any of the following ways:

- From within the Signal Enhancement Products Control Program, click on the Help menu on the main screen.

- From within the Signal Enhancement Products Control Program, press the F1 key.
- From the Extron Electronics program folder or group, double-click on the Signal Enhancement Products Help icon.



Remote Contact Closure

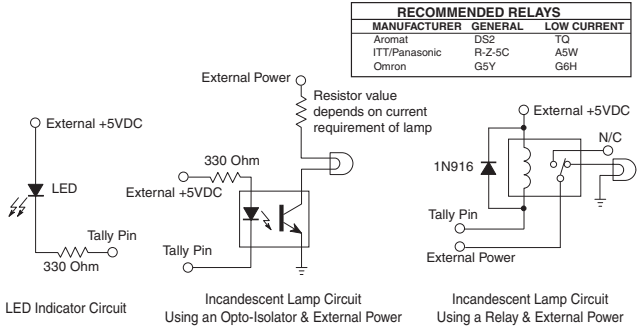
The RS-232/Remote connector provides a way to switch inputs on the CD 800 from a remote contact closure device. This is made possible through pins that are not used by the RS-232 interface. The contact closure pin assignments are shown below.

Pin	Description
1	No connection
2	Transmit data
3	Receive data
4	No connection
5	Signal ground
6	Input #1
7	Input #2
8	Tally #1
9	Tally #2

To select a different input number through this connector, momentarily short the pin for the desired input number (#) to logic ground (pin 5). To force one of the two inputs to be selected continuously, leave the short to logic ground in place. This will override front panel input selection.

The tally pins can be used for remote indication of the selected input. Tally #1 or tally #2 (pins 8 and 9) indicate the selected input # with a logic low (0 volts). The tally pins are normally at logic high (5 volts).

You can use the schematics below as a guide to design and build indicator circuits for the tally pins. An external voltage source is required to drive these indicator circuits.



CD 800

Appendix

Specifications

Specifications

Video input

Number/type	1 S-video (Y/C), 1 composite video (switch-selectable)
Connectors	1 4-pin mini-DIN female (S-video) 1 BNC female (composite video)
Nominal level(s)	Analog — 0.7V to 1V p-p
Impedance	75 ohms
Horizontal frequency	15.6 kHz to 17.75 kHz
Vertical frequency	50 Hz to 60 Hz

Video throughput

Gain	Variable by adjusting contrast
Bandwidth	6 MHz (-3 dB) (luminance)
Differential phase error	1.5°, 0 to 10 MHz
Differential gain error	1.5%, 0 to 10 MHz

Video output

Number/type/format	1 RGBHV, RGBS, RGsB (toggle switch-selectable)
Connectors	5 BNC female
Nominal level	Analog — 0.7Vp-p, DC coupled
Impedance	75 ohms
DC offset	±0.1V maximum

Sync

Output type	RGBHV, RGBS, RGsB (toggle switch or Windows program control selectable)
Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM
Input level	0.3V p-p
Output level	TTL — 5V p-p
Input impedance	75 ohms
Output impedance	75 ohms
Polarity	RGBHV positive or negative (switch-selectable) S-video negative Composite video negative

Control/Remote — decoder

Serial control port	RS-232, 9-pin female D connector
Baud rate and protocol	9600, 8-bit, 1 stop bit, no parity
Pin configurations	2 = TX, 3 = RX, 5 = GND
Contact closure	9-pin female D connector
Program control	Extron's control program for Windows Extron's Simple Instruction Set (SIS)

General

Power	100VAC to 240VAC, 50/60 Hz, 7.5 Watts, internal, auto-switchable
Temperature/humidity	Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, non-condensing Operating +32° to +122°F (0° to +50°C) / 10% to 90%, non-condensing
Rack mount	Yes, with optional rack shelf, part #60-190-01
Enclosure type	Metal
Enclosure dimensions	1.75" H x 8.75" W x 9.5" D 4.45 cm H x 2.22 cm W x 24.13 cm D
Shipping weight	5 lbs (2.3 kg)
Vibration	NSTA 1A in carton (National Safe Transit Association)
Approvals	UL, CE
MTBF	30,000 hours
Warranty	2 years parts and labor

NOTE *Specifications are subject to change without notice.*

