

BARCO PROJECTION SYSTEMS



BARCO DATA
801S


90 00831 (230V AC)

90 00838 (120V AC)

SERVICE MANUAL


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PRODUCT SAFETY NOTICE

Components identified by  or * have **SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY**. Before replacing any of these components, read carefully the service safety precautions.

DO NOT DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

SAFETY NOTICE

Components having special safety characteristics are identified by  on schematics and on the parts list in this **SERVICE MANUAL** and its supplements and bulletins. Before servicing this apparatus, it is important that the service technician read and follow the "**SAFETY PRECAUTIONS**" and "**PRODUCT SAFETY NOTICES**" in this Service Manual.

SAFETY PRECAUTIONS

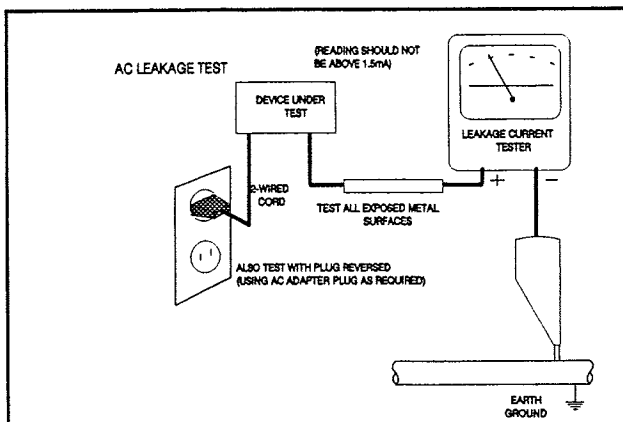
1. Before returning an instrument to the customer, always make a safety check of the entire instrument, including, but not limited to, the following items :

a. Be sure that no built-in protective devices are defective and/or have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including, but not limited to, insulating materials, barriers, covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) excessively wide cabinet ventilation slots, and (2) an improperly fitted and/or incorrectly secured cover panels.

c. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 220 VAC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.0 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screwheads, metallic overlays, control shafts, etc.). especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 1.5 milliamp. Reverse the instrument power cord plug in the outlet and repeat test.

ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING ACCESSORIES.



WARNING: RISK OF ELECTRIC SHOCK DURING THIS TEST. THE PROJECTOR IS NOT CONNECTED TO GROUND. DO NOT TOUCH THE PROJECTOR AND USE WELL INSULATED TEST PROBES.

d. **X-Radiation and High Voltage** - Because the picture tubes are the primary potential source of X-radiation in solid-state projectors, they are specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place.

After replacement of any X-ray radiation related safety components (marked in this manual with an *), the EHT voltage board must be checked.

2. Read and comply with all caution and safety-related notes on or inside the projector cabinet or on the projector chassis, or on the picture tube.

3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this apparatus. Design alterations and additions, including, but not limited to, circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this apparatus and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you, the servicer responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning** - The picture tube in this projector encloses a high vacuum. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck.

For continued implosion protection, replace the picture tube only with one of the same type number.

5. **Hot Chassis Warning** - This projector chassis has two ground systems: the primary ground system is formed by the negative voltage of the rectified mains (power) and is only used as a reference in primary circuits; the secondary ground system is connected to earth ground via the earth conductor in the mains (power) lead. Separation between primary and secondary circuits is performed by the safety isolation transformers. Components bridging this transformers are also safety components and must never be defeated or altered.

All user-accessible conductive parts must be connected to earth ground, or are kept at SELV (Safety Extra Low Voltage).

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas:

- near sharp edges,
- near thermally hot parts - be sure that leads and components do not touch thermally hot parts,
- the AC supply,
- high voltage.

Always inspect in all areas for pinched, out-of-face, or frayed wiring. Do not change spacing between components, and between components and the printed-circuit board. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. PRODUCT SAFETY NOTICE - Many electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in BARCO service data by Δ on schematics and in the parts list. Use

of a substitute replacement that does not have the same safety characteristics as the recommended replacement part in BARCO service data parts list might create shock, fire, and/or other hazards. Product Safety is under review continuously and new instructions are issued whenever appropriate. For the latest information, always consult the appropriate current BARCO service literature.

SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service data and its supplements and addendums, read and follow the SAFETY PRECAUTIONS of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 2 of this publication, always follow the safety precautions.

Remember: Safety First.

General Servicing Precautions

1. Always unplug the instrument AC power cord from the AC power source before:

- Removing or reinstalling any component, circuit board, module, or any other instrument assembly.
- Disconnecting or reconnecting any instrument electrical plug or other electrical connection.
- Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

Caution: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Do not spray chemical on or near this instrument or any of its assemblies.

3. Unless specified otherwise in this service data, clean electrical contacts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength). **Caution:** *This is a flammable mixture.*

Unless specified otherwise in this service data, lubrication of contacts is not required.

4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service data might be equipped.

5. Do not apply AC power to this apparatus and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.

6. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

7. Use with this instrument only the test fixtures specified in this service data.

CAUTION: Do not connect the test fixture ground strap to any heatsink in this instrument.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Wear a commercially available high impedance discharging wrist strap device.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a static dissipative surface such as a 3M No 8210 table mat, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminium foil or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 260°C to 315°C.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch, or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique:
 - a. Allow the soldering iron tip to reach normal temperature (260°C to 315°C).
 - b. Heat the component lead until the solder melts.
 - c. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.

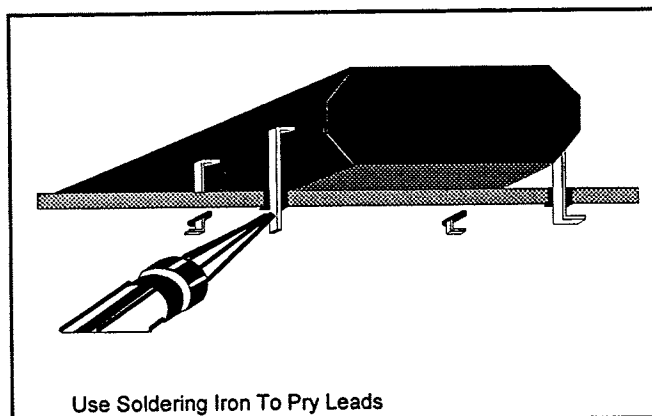
CAUTION: Work quickly to avoid overheating the circuit board printed foil.
6. Use the following soldering technique:
 - a. Allow the soldering iron tip to reach normal temperature (260°C to 315°C).

b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.

c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.

CAUTION: Work quickly to avoid overheating the circuit board printed foil or components.

d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.



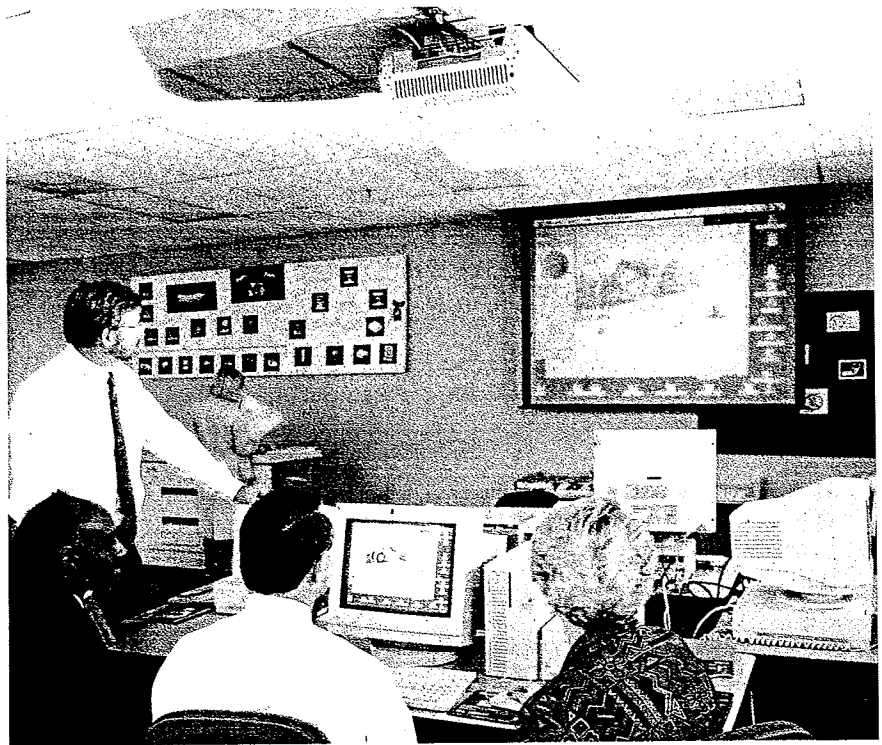
BARCO

BARCODATA 801s and 1101 Digitally Controlled Video and Data Projectors



Give your presentations the right impact !

BARCO has introduced two new large screen Video/Data projection systems, which offer the very best performance for today's most demanding presentation and training applications: the BARCODATA 801s and BARCODATA 1101.



ULTRA WIDE COMPATIBILITY

The new BARCODATA 801s and the BARCODATA 1101 offer unmatched price and performance value for today's presentation and training markets. Each unit can display all worldwide Video standards (PAL, SECAM, NTSC 3.58, NTSC 4.43) as well as RGB signals from a wide range of PC graphics boards up to resolutions of 1180 by 900 pixels/60 Hz.

EXTREMELY USER-FRIENDLY SET-UP AND CONTROL

The BARCODATA 801s and 1101 are based on BARCO's advanced digital architecture which provides user-friendly remote control of all set-up and display functions. Extremely precise, yet simple adjustments are accomplished through intuitive, on-screen menu-driven display.

SUPERB IMAGE QUALITY

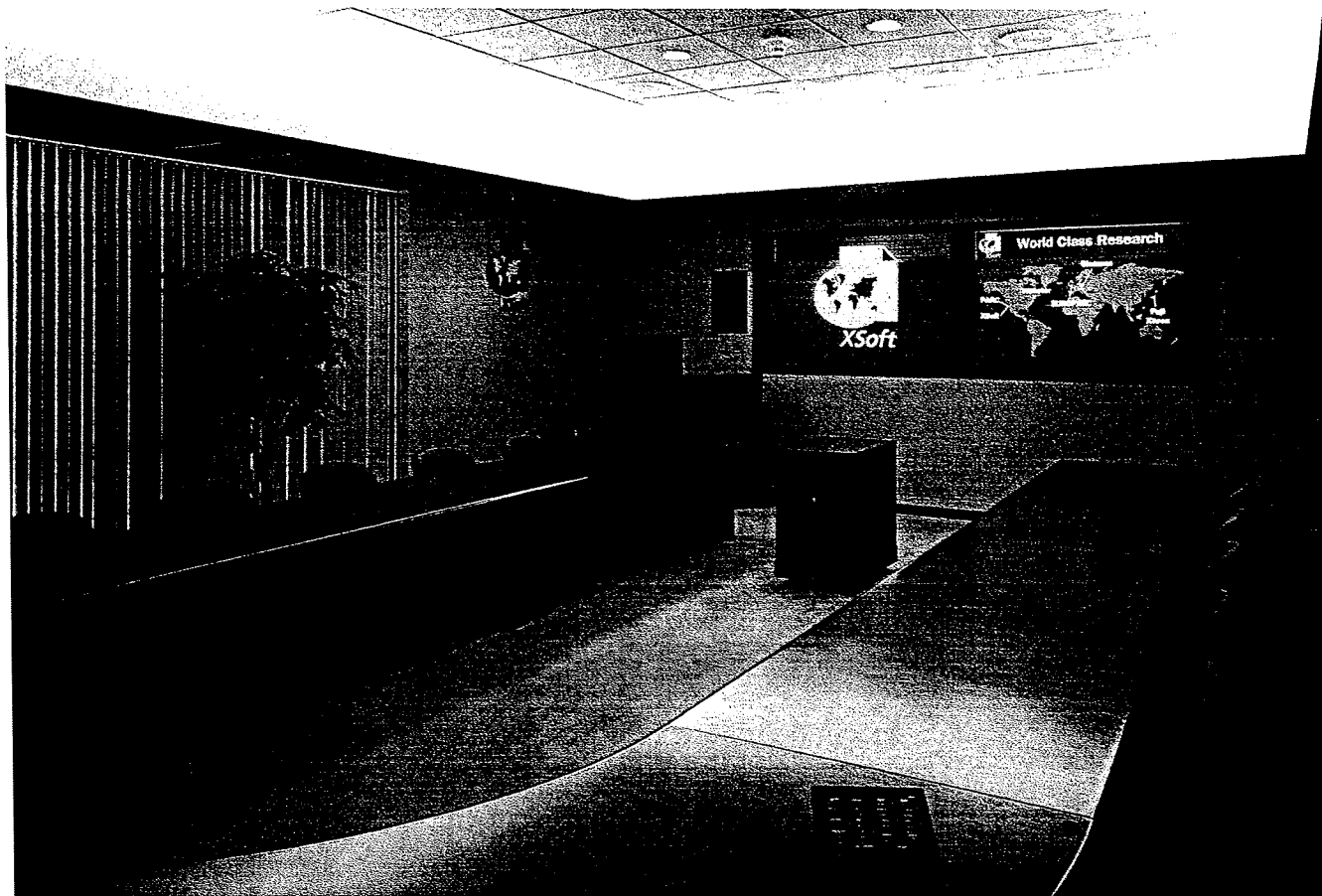
Utilizing BARCO's optional IRIS 800 Auto-Convergence unit, on-screen convergence can be achieved in less than three minutes. A sophisticated memory management system and auto-memory storage feature guarantee consistently sharp image quality.

▲ Their automatic adaptation to almost all types of personal computers in addition to their universal connection possibilities make the BARCODATA 801s and 1101 ideally suited for large screen software presentations and staff meetings. (Photo courtesy of Xerox at Infomart - Dallas, TX).

These capabilities, in addition to major circuit improvements allow the BARCODATA 801s and 1101 projectors to flawlessly render large screen computer based presentations, charts and spreadsheets with amazing slide-like quality.

This makes both units ideally suited for a wide range of presentation and training applications, including multimedia events, trade shows, computer software training sessions, boardroom meetings,....

■ Highly advanced optical system



▲ The BARCODATA 801s and 1101 are the product of choice for boardroom meetings (Photo: X-Soft boardroom for Xerox Corporation-Courtesy of EISI-Mountain View, CA).

Both the BARCODATA 801s and 1101 are based on an advanced, state-of-the-art optical system, offering unmatched image quality with excellent true colour reproduction.

BARCODATA 801s

- The BARCODATA 801s is provided with newly improved, high-definition, liquid cooled 8" square CRTs (5.7" phosphor area) with stabilized pressure chambers, which offer a consistent superb picture quality. F1.06 colour corrected, hybrid lenses deliver an optical resolution of 10 lp/mm and improved image contrast on screens up to 6 m (20 ft) wide.

BARCODATA 1101

- The BARCODATA 1101 is equipped with high brightness, high definition liquid cooled 9" CRTs (7.7" phosphor area). High definition colour corrected F1.15 hybrid lenses, liquid coupled with center+edge focus adjustment, deliver high light output and contrast on screens up to 8.8 m (29 ft).



Unequalled user-friendliness Easy set-up and control

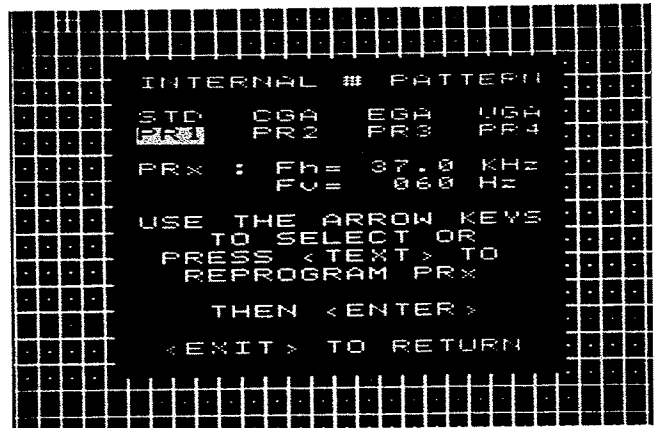
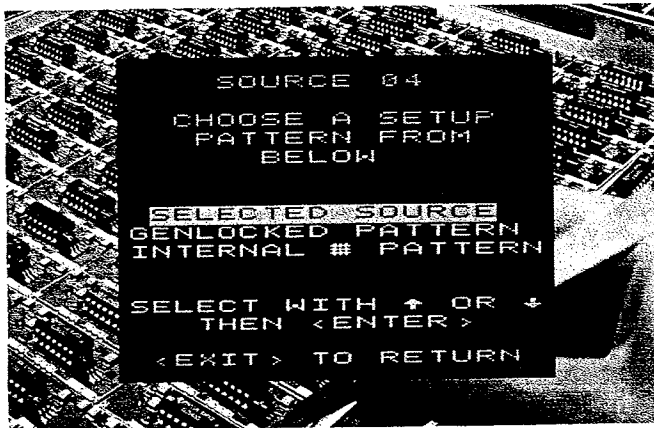
The BARCODATA 801s and 1101 are based on BARCO's advanced digital architecture. This offers not only outstanding specifications, but also facilitates the use and installation of the projectors.

LOGICAL ON-SCREEN MENUS

For simple geometry and convergence adjustments, the BARCODATA 801s and BARCODATA 1101 projector combines a user-friendly remote control unit with logical on-screen menus.

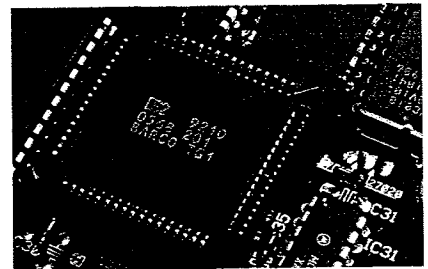
GUIDED ADJUSTMENT PROGRAM

The projector offers a guided adjustment program which directs the user through the complete alignment procedure in the most efficient way, and a random adjustment mode which can be used for immediate access to one specific parameter.



▲ Convenient, well organized on-screen menus (available in several languages), combined with the user-friendly infrared remote control unit, simplify all adjustments of the projector, even for first-time and non-skilled users.

► A convenient backlit infrared remote control unit facilitates control and adjustment of the projector.



▲ The BARCODATA 801s and 1101 utilizes microprocessor control and BARCO ASICs (Application Specific Integrated Circuits), which simplify adjustment and guarantee a consistent superb picture quality.

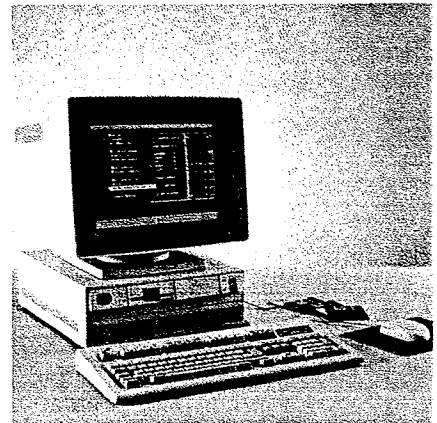
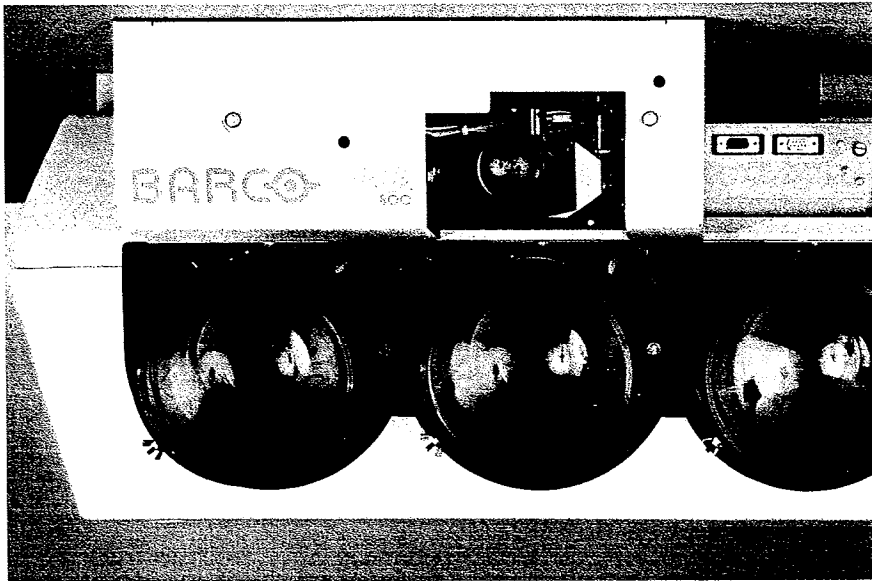
INTERNAL PATTERN GENERATORS

Image adjustments may be accomplished 'on source', or through the use of an internally generated pattern, genlocked on the connected source or to a pre-programmed frequency, to allow for adjustment of the projector in the absence of an external source.

IRIS 800 AUTOMATIC CONVERGENCE SYSTEM

The IRIS 800 is an optional user-friendly, automatic convergence system designed to automatically align the projected image on the screen faster and more accurately than ever before possible through the conventional 'manual' convergence process.

The user-friendly concept of BARCO's 'Projector Control' software, with mouse-driven, pull-down menus and dialogue boxes, facilitates the adjustment of the projectors
▼ *connected to the central computer.*



◀ *The IRIS 800 has a light-weight, rugged enclosure, and can be easily installed to the front of the projector.*

38 MEMORY BANKS

All image adjustments are individually set for each source and stored in one of the projector's 38 frequency related memory banks. Once image parameters are designated for each source, the projector will automatically select the correct settings for the source in use, thus providing consistently perfect image quality.

LDI: LINEAR DIGITAL INTERPOLATION

Once parameters are selected for at least two sources, the LDI (Linear Digital Interpolation) feature of the projector will automatically calculate the image parameters of all additional sources in order to approximate the new source settings. The LDI feature creates these new settings through the use of frequency dependent weighting algorithms thus eliminating the need for time consuming readjustments.

The IRIS 800 incorporates a unique hardware/software system, which utilizes a high resolution CCD camera in conjunction with an ultra light, high-quality front-surface mirror assembly. Together with built-in digital enhancement software this guarantees both a quick and precise alignment of the three projected images on the screen, even under high ambient lighting conditions.

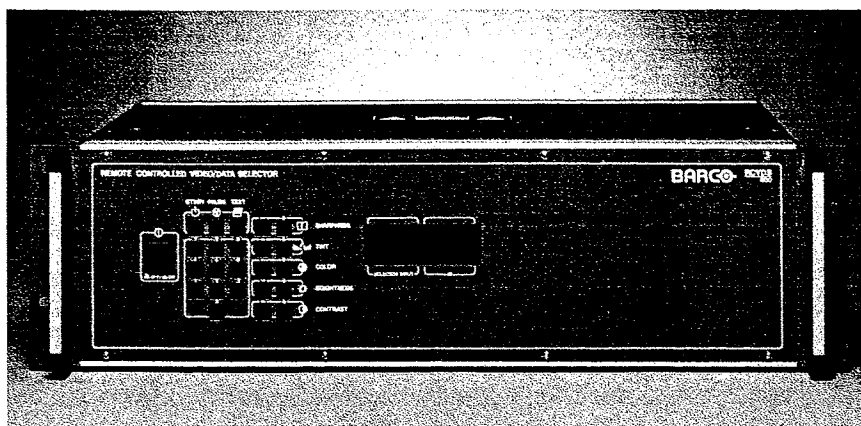
PROJECTOR SUPPORT SOFTWARE PACKAGE

Thanks to BARCO's optional proprietary projector support software package, it is possible to adjust brightness, contrast, hue, colour, sharpness and geometry and convergence settings for up to 256 projectors from one central point. It is even possible to store image settings for each source for future use on a computer hard disk or diskette. The software is available for IBM (or compatible) computers equipped with DOS operating system.



Optional peripheral devices

BARCO offers a wide range of peripheral devices and options, which further enhance the flexibility and versatility of the BARCODATA 801s and BARCODATA 1101.



RCVDS 800 SWITCHER

The Remote Controlled Video and Data Source Selector RCVDS 800 makes it possible to connect up to ten sources to the projector and to adjust all picture settings via the projector's infrared remote control.

For expanded use of the projector, it is possible to connect up to ten RCVDS 800 source selectors in series, so that up to 90 different sources may be connected simultaneously to a single projector.

REMOTE INFRARED RECEIVER

An additional remote infrared receiver facilitates the use of the projector's infrared remote control in difficult installations.

COMMUNICATION CABLES

Additional RS232/422 cables (D9/D9), with a length of 5 m (16'), 15 m (50') or 30 m (100') are available.

EXECUTIVE REMOTE CONTROL

An executive infrared remote control is available, to accommodate source selection and adjustment of user settings without allowing changes to the projector's geometry and convergence settings.

▲ The RCVDS 800 allows for the connection of up to 10 different sources to one projector, and the adjustment of all picture settings via a convenient infrared remote control.

SUSPENSION SYSTEM

BARCO's suspension systems allow the BARCODATA 801s or BARCODATA 1101 projector to be mounted from the ceiling, adapting the projector perfectly to the local mounting requirements.

FLIGHT CASE

Sturdy, easily transportable flight cases, for the packing of the BARCODATA 801s or BARCODATA 1101.

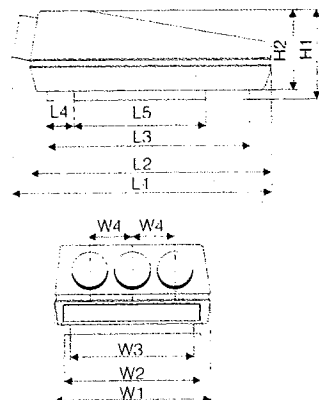
SPECIAL OPTIONS

BARCO offers a series of special options for non-standard applications (multi-screen applications, non-standard projection angles,...): contrast modulation kit, soft-edge matching kit, orbiting kit, convergence on green, automatic colour temperature alignment system...



Technical specifications

BARCODATA 801s



Dimensions:	mm	inch
L1	1000	39.37
L2	870	34.25
L3	735	28.94
L4	60	2.36
L5	415	16.34
H1	342	13.46
H2	295	11.61
W1	575	22.64
W2	494	19.45
W3	442	17.40
W4	180	7.09

BARCODATA 801s

BARCODATA 1101

LIGHT OUTPUT*

At 10 % peak white:
At 20 % peak white:

900 lumen
800 lumen

> 1000 lumen
690 lumen

CRTS

High brightness, high definition
liquid cooled 8" CRTs

High brightness, high definition
liquid cooled 9" CRTs (7.7"
phosphor area)

LENSES

High definition, fully colour
corrected F1.06 hybrid lenses,
with centre+edge focus
adjustment

High definition colour corrected
F1.15 hybrid lenses, liquid
coupled with centre+edge focus
adjustment

OPTIONAL LENSES

-

Ultra high-definition F1.15
hybrid lenses, with an optical
resolution of 12 lp/mm,
optimized for dedicated screen
sizes

SCREEN SIZE (WITH STANDARD LENSES)

Min.:	1.2 x 0.9 m	(4' x 3')	2 x 1.5 m	(6.6' x 4.9')
Max:	6 x 4.5 m	(20' x 15')	8.8 x 6.6 m	(29' x 21.8')

SCAN FREQUENCIES

Horizontal: 15-65 kHz autolock
Vertical: 37-140 Hz autolock

MINIMAL RETRACE TIME

Horizontal: 3.3 µs
Vertical: 300 µs

OPTICAL RESOLUTION

10 lp/mm at 50 % MTF throughout the field

HORIZONTAL LINEARITY

> 97 % accuracy in the full horizontal frequency
range

RGB BANDWIDTH

75 MHz

INPUTS

- RGB analog (BNC-connectors), sync on green or separate sync
- RGB analog input on D9-connector
- Video (PAL, SECAM, NTSC 3.58, NTSC 4.43), loop through (2x BNC) with 75 Ohm termination switch
- 4-pin S-Video input, loop through with 75 Ohm termination switch

REMOTE CONTROL

A user-friendly infrared remote control with
backlighting controls:

- source switching
- user settings per source (sharpness, hue, colour, brightness, contrast)
- geometry per source (password protected)
- convergence per source (password protected)

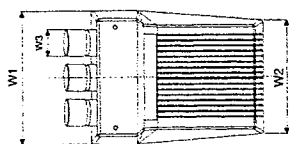
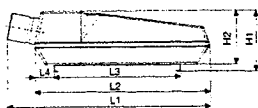
An optional executive remote control unit is
available for control of source switching and user
settings per source

SPECIAL FEATURES

- 38 frequency-related memory banks
- L.D.I. (Linear Digital Interpolation)
- Effective on-screen display: installation screens, help screens, barscale display of user settings, on-screen display of source frequencies
- Automatic storing of all adjustments
- Ability to set parameters to midposition
- Colour temperature adjustment (3200 K, 6500 K, 9300 K, or custom)
- Special sharpness control: improves picture quality for high-frequency sources
- Text generators for other languages are available
- The BARCODATA 801s is upgradable to a BARCOGRAPHICS 801s

* Measurement method available upon request

BARCODATA 1101



Dimensions:	mm	inch
L1	1174	46.2
L2	1014	39.9
L3	735	28.9
L4	110	4.3
H1	355	13.9
H2	315	12.4
W1	782	30.8
W2	665	26.2
W3	158	6.2

WEIGHT

BARCODATA 801s:

Net weight: 64 kg - 141 lbs.

Shipping weight: 80 kg - 176 lbs.

BARCODATA 1101:

Net weight: 76 kg - 167 lbs.

Shipping weight: 105 kg - 231 lbs.

POWER CONSUMPTION

BARCODATA 801s: 350 W

BARCODATA 1101: 390 W

ELECTROMAGNETIC INTERFERENCE

The BARCODATA 801s and 1101 comply with FCC part 15 Class A.

SAFETY REGULATIONS

The BARCODATA 801s and BARCODATA 1101 comply with UL 1950 and IEC 950.

RADIATION REGULATIONS

The BARCODATA 801s and BARCODATA 1101 comply with DHHS radiation emission standards 21 CFR Subchapter J.

ORDER INFORMATION

BARCODATA 801s:

230 V: 90 00831

120 V: 90 00838

BARCODATA 1101:

230 V: 90 00870

120 V: 90 00879

RCVDS 800:

230 V: 98 27450

120 V: 98 27459

Projector Control software: 98 27534

IRIS 800: 98 2769

Executive remote control: 98 27970

Remote infrared receiver: 98 27515

Communication cables:

5 m (16 ft.): 98 27770

15 m (50 ft.): 98 27560

30 m (100 ft.): 98 27570

Suspension system: 98 27341

Flight case: 98 27650

Special add-in boards:

- Soft-edge matching & contrast modulation kit: 98 27810

- Contrast modulation kit: 98 27800

- Orbiting kit: 98 27780

Contact: _____

BARCO Projection Systems

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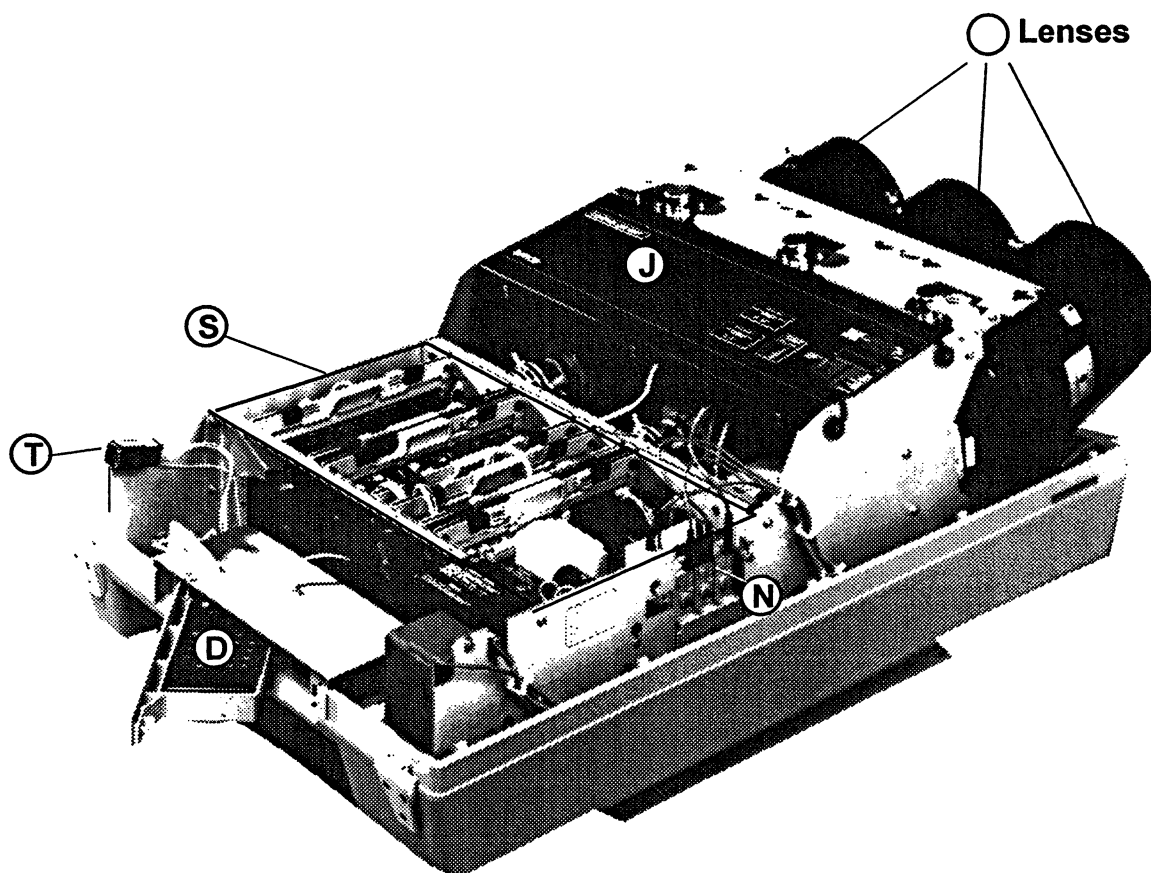
Fax: +32/56/35 16 51

BARCO

Photo on front page: Photo courtesy of Xerox at InfoMart - Dallas, TX.

The information and data given are typical for the equipment described. However any individual item is subject to change without any notice.

Ref. no. 59 90831 - Photographs: P. Labarque - Printed in Belgium

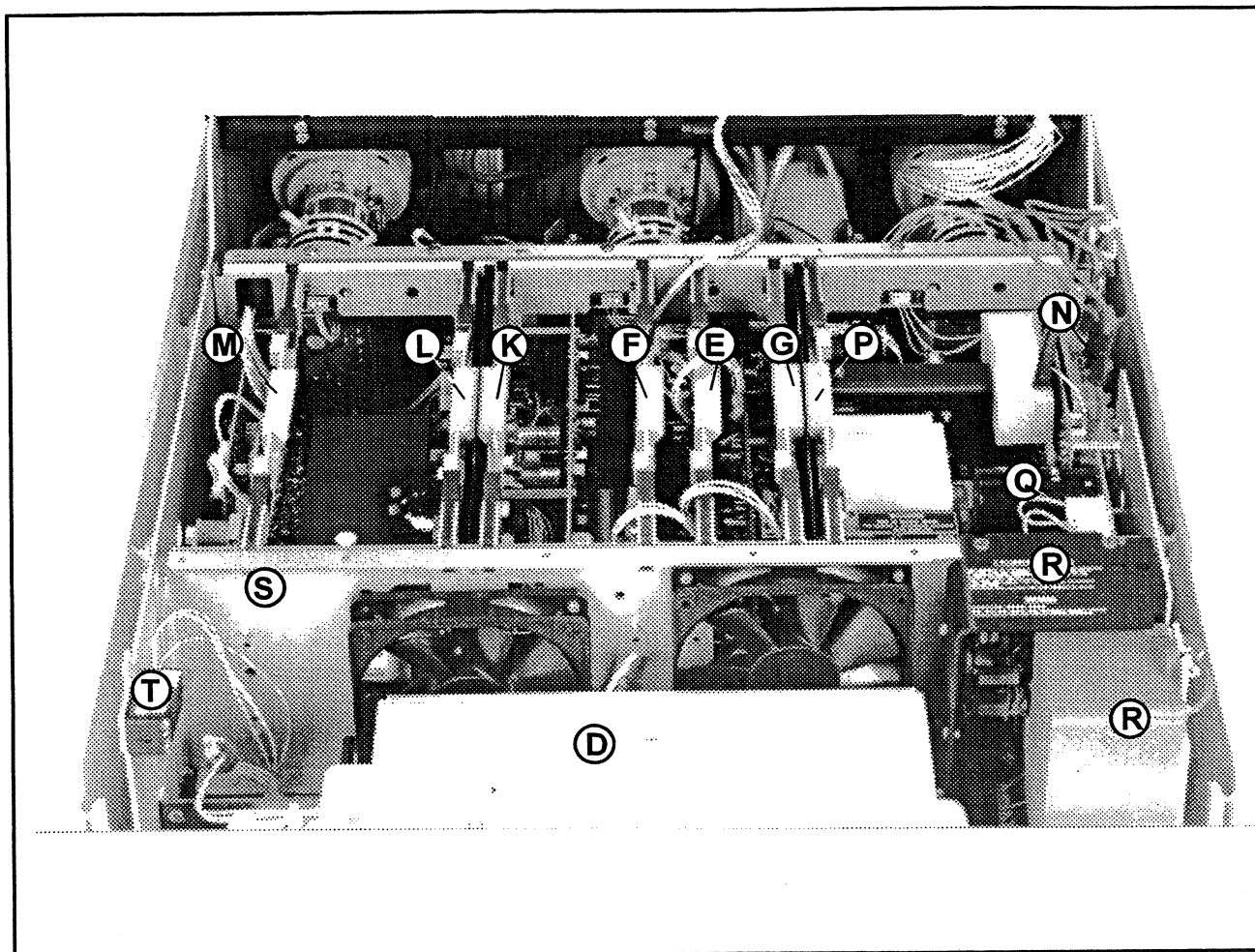


Sheet reference

[]	13 0938	HD8 lenses
[J]	76 2249	Controller (Asic)
[S]	76 2175	Frame

Sheet reference

[D]	79 1666	Internal control unit
[T]	76 1781	IR Receiver
[N]	76 2482	Focus control

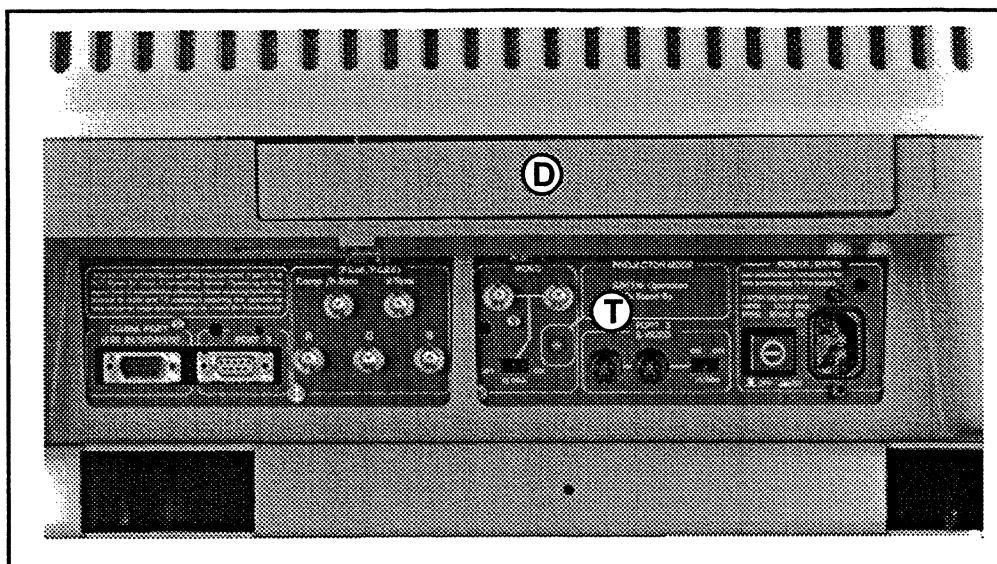
PROJECTOR
TOP VIEW

Sheet reference

D	79 166	Internal control unit
E	76 17481	Input RGB Analog+Switching
F	76 21055	Input RGB Analog
G	76 21745	QUAD Decoder+Gain Control
J	76 2249	Controller+PLL
K	76 22695	Sync+Vert. Deflection
L	76 17415	Hor. Deflection
M	76 18425	Hor. Shift

Sheet reference

N	76 2482	Focus Control
P	76 21705	SM Power Supply
Q	76 2463	Power Input
R	76 17427 76 1743	EHT Generator Quadrupler
S	76 2175	Frame
T	76 1781	IR Receiver Rear

PROJECTOR *Rear view*

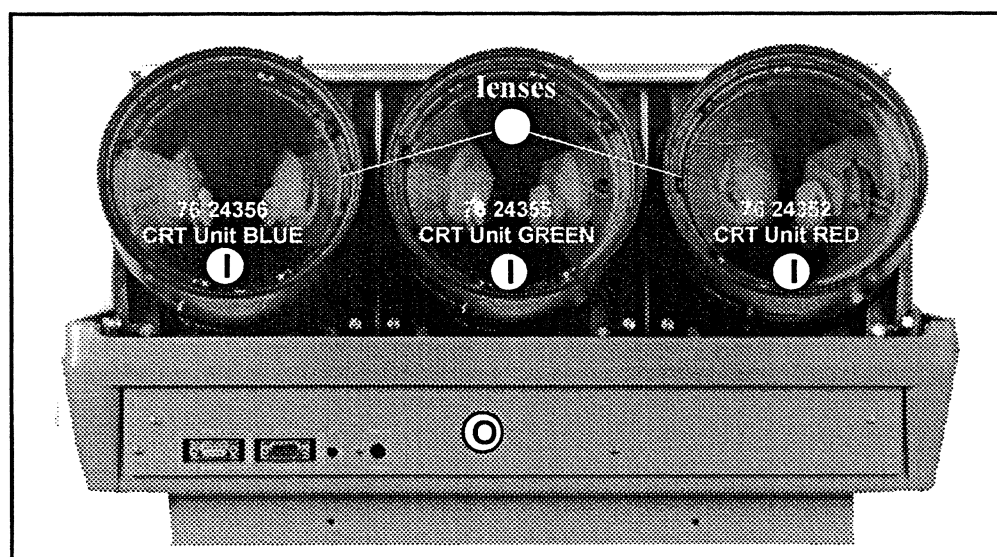


Sheet reference

S 76 2175 Frame

D 76 1666 Internal control unit

PROJECTOR *front view*



Sheet reference

O 76 2512 Convergence (driver)
76 2525 Convergence (output)

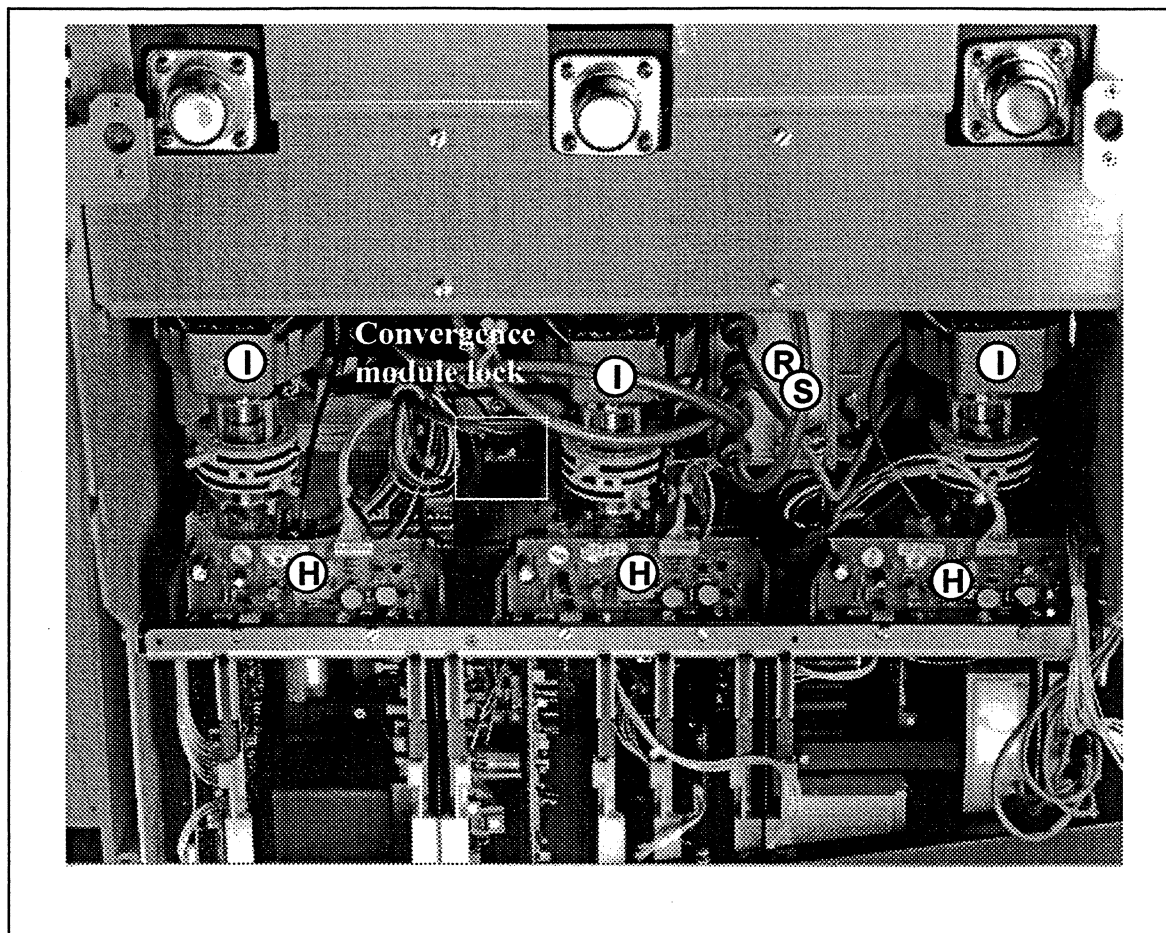
I 13 0938 Lenses

Sheet reference

I 76 24382 CRT Unit RED
76 24385 CRT Unit GREEN
76 24386 CRT Unit BLUE

PROJECTOR

Top view (front side)



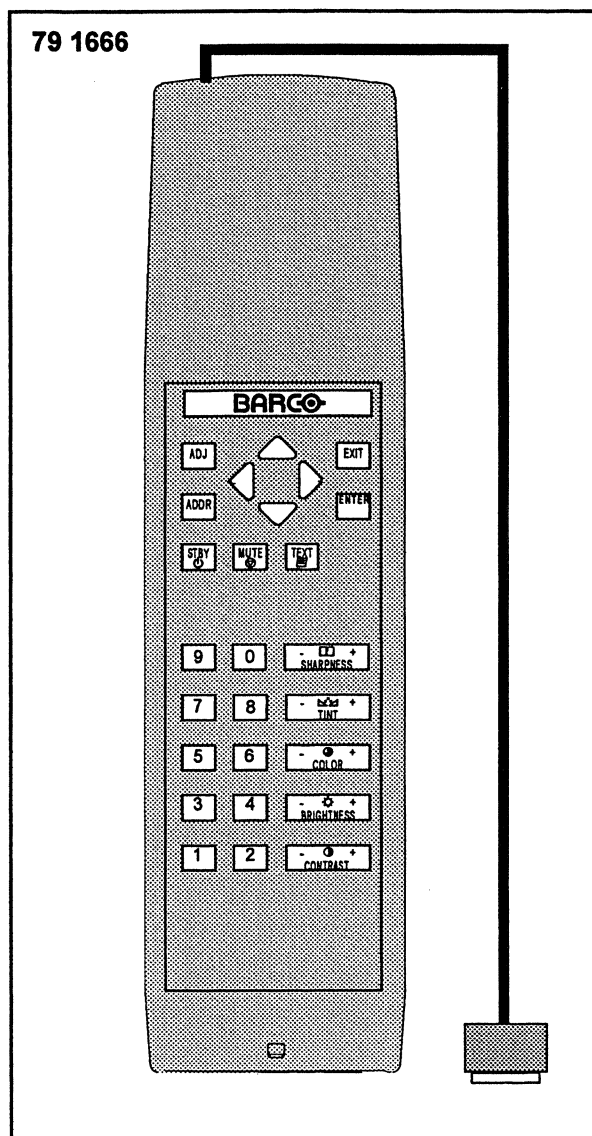
Sheet reference

H	76 21735	R-G-B Output
R	76 17447	EHT Splitter

Sheet reference

I	76 24382	CRT Unit RED
	76 24385	CRT Unit GREEN
	76 24386	CRT Unit BLUE

Internal control unit (D)



Sheet reference

D 79 1666 Internal remote control

SPARE PARTS ON MODULE LEVEL

R7617415	UN HOR PJ49 D801 MK2	1	R762175	UN FRM PJ49 -UN G801	1
R7617427	UN EHT PJ49 G800 MK2	1	R762249	UN CTRL PJ49 D801 ASIC	1
R761743	UN EHT PJ49 G800 QDR	1	R7622695	UN VER+S PJ49 D801 ABL	1
R7617447	UN EHT PJ49 G800 SPL	1	R7624382	UN CRT D 801 07MSPNW R Y	1
R7617481	UN RGB PJ51 G1200 SW +TLL	1	R7624385	UN CRT D 801 07MSPNW G Y	1
R761781	UN RX PJ49 G800 IR RR	1	R7624386	UN CRT D 801 07MSPNW B Y	1
R7618425	UN SH PJ49 G801 CPL	1	R762463	UN MNS PJ49R G801 CPL	1
R7621055	UN INP PJ51 RGB A_S_TRACK	1	R762482	UN FOC_C PJ49 G801 7MSP	1
R7621705	UN SMP1 PJ56 G808	1	R762510	UN RS232 PJ56 G808	1
R7621712	UN CRT SKT PJ49 G 801 R	1	R762512	UN CNV PJ56 G808 DVR	1
R7621712	UN CRT SKT PJ49 G 801 R	1	R762525	UN CNV PJ49R *801 OUT	1
R7621716	UN CRT SKT PJ49 G 801 B	1	R791664	UN RCU PJ49 700 IR+LGHT	1
R7621735	UN RGB PJ49 G801 OUT ABL	3	R791666	UN RCU PJ51 1200 WIRE	1
R7621745	UN RGB PJ49 G801 DVR+QMK2	1			

SUGGESTED SPARE PARTS LIST BD801S
a) First level Parts

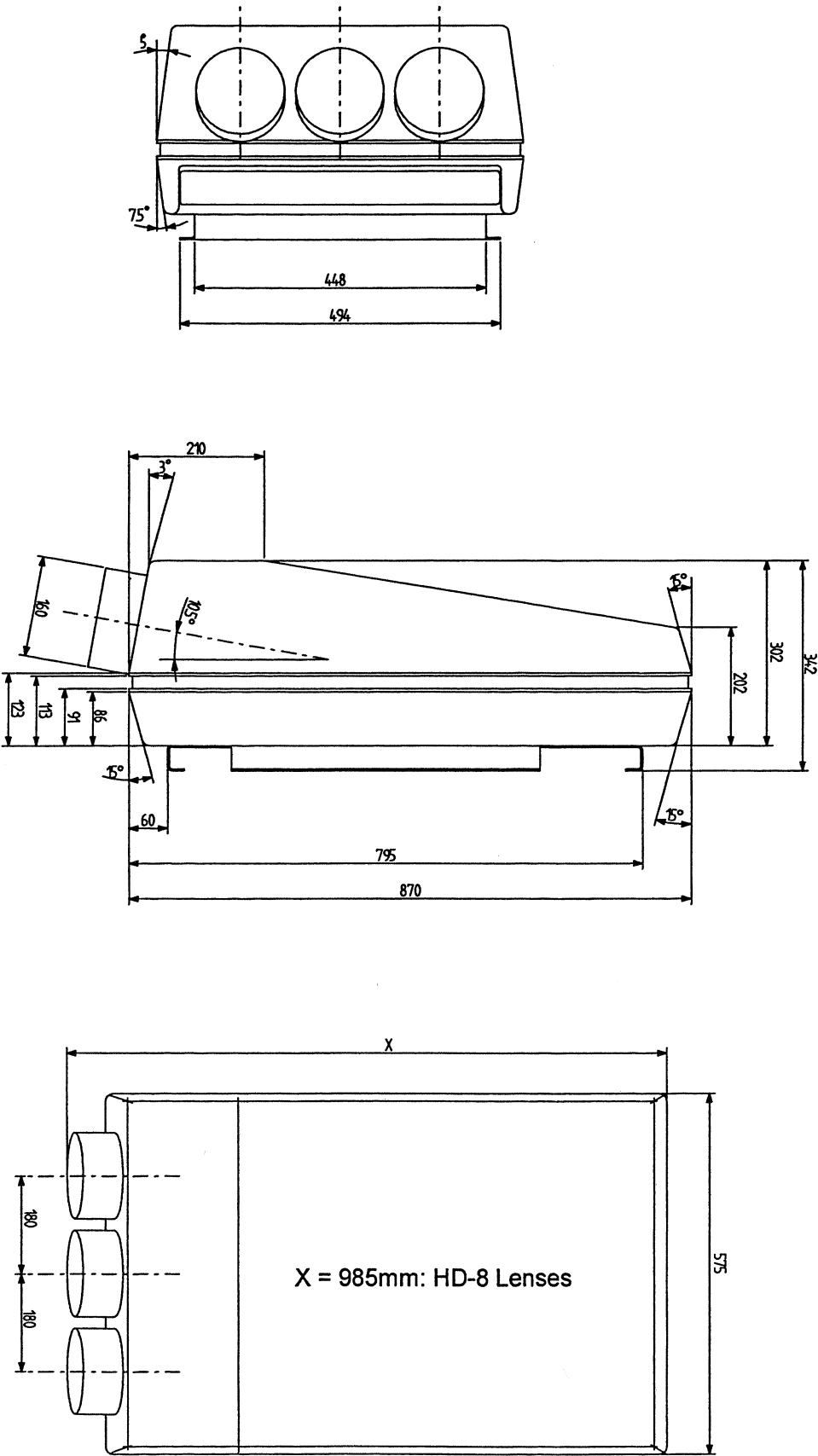
ART NO.	DESCRIPTION	QUANTITY
76 1743	EHT Quadrupler	
76 17447	EHT splitter	
76 23182	CRT Red	
76 23185	CRT Green	
76 23186	CRT Blue	

b) Second Level Modules

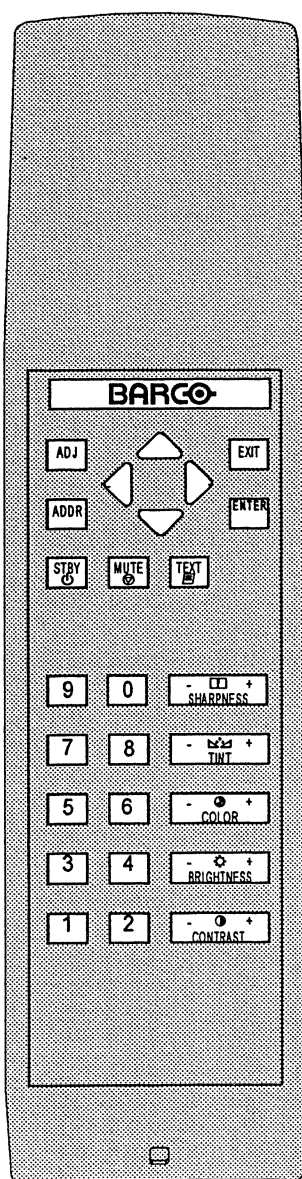
ART NO.	DESCRIPTION	QUANTITY
76 21705	SM Power Supply	
76 17415	Hor. Deflection	
76 17427	EHT generator	
76 17481	RGB Ana+ Switching	
76 21735	RGB Output	

c) Third Level Modules

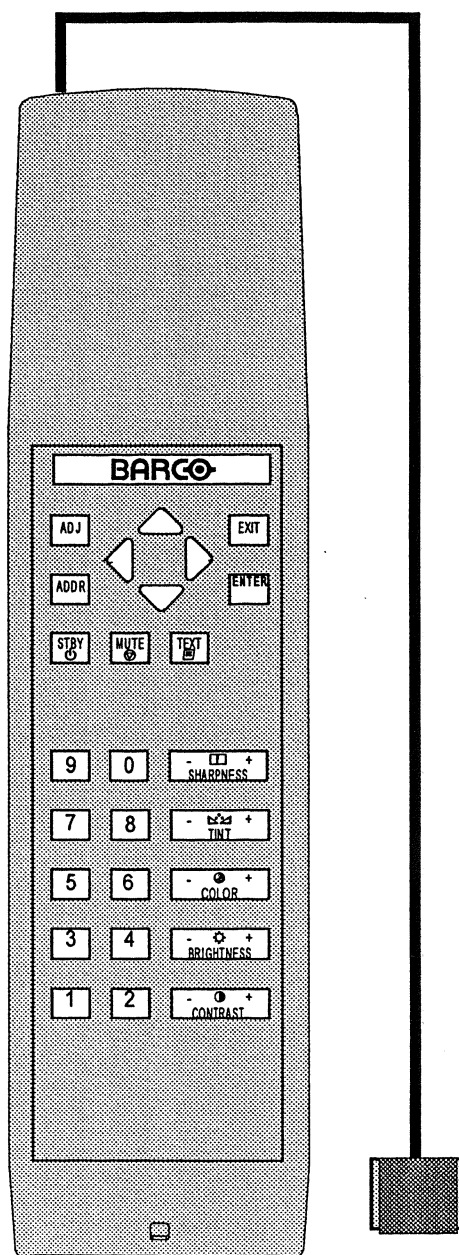
ART NO.	DESCRIPTION	QUANTITY
76 22695	Sync+Vertical Deflection	
76 2249	Controller (Asic)	
76 18425	Hor.Shift	
76 2512	Convergence (driver)	
76 21745	RGB driver+Quad decoder	
79 1666	Internal control unit	
79 1664	IR Transmitter	

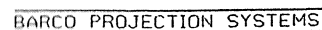


Infra Red Remote control
79 1664



Internal Control unit
79 1666



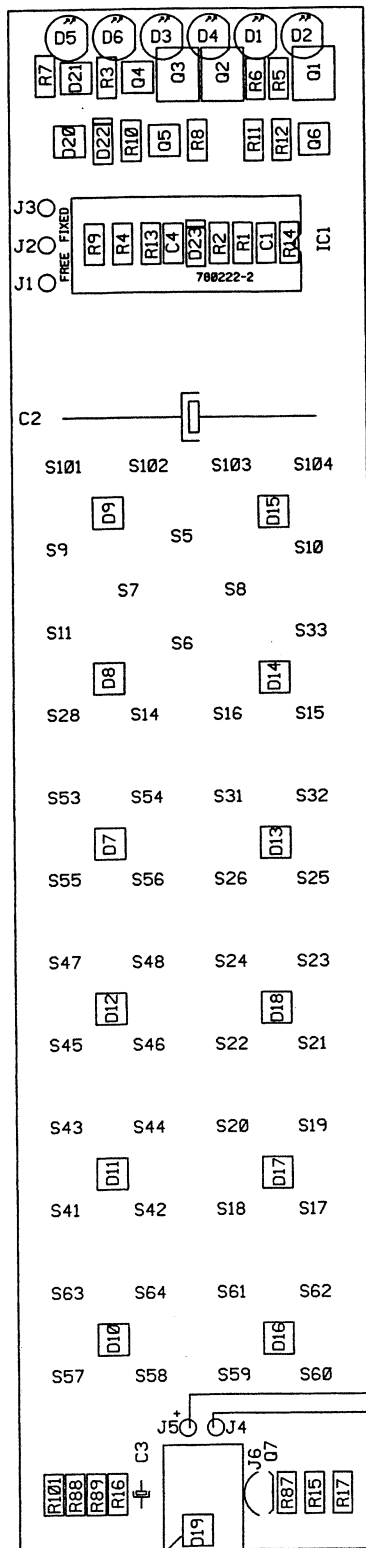




Name Transmitter		Article nr. 79 1664-2
Date 22-01-1993	Drawn JVDY	Checked SCG

BARCO PROJECTION SYSTEMS

Address locked on 10
Free address



COMP. LOC.

C1	B 2
C2	A 2
C3	B 5
C4	B 2
D1	B 1
D2	B 1
D3	B 1
D4	B 1
D5	B 1
D6	B 1
D7	B 3
D8	B 3
D9	B 2
D10	B 5
D11	B 4
D12	B 4
D13	B 3
D14	B 3
D15	B 2
D16	B 5
D17	B 4
D18	B 4
D19	B 5
D20	B 1
D21	B 1
D22	B 1
D23	B 2
IC1	B 2
J1	A 2
J2	A 2
J3	A 1
J4	B 5
J5	B 5
J6	B 5
R1	B 2
R2	B 2
R3	B 1
R4	B 2
R5	B 1
R6	B 1
R7	B 1
R8	B 1
R9	B 2
R10	B 1
R11	B 1
R12	B 1
R13	B 2
R14	B 2
R15	B 5
R16	B 5
R17	B 5
R18	B 5
R19	B 5
R20	B 5
S5	B 2
S6	B 3
S7	B 3
S8	B 3
S9	B 2
S10	B 2
S11	B 3
S14	B 3
S15	B 3
S16	B 3
S17	B 4
S18	B 4
S19	B 4
S20	B 4
S21	B 4
S22	B 4
S23	B 4
S24	B 4
S25	B 3
S26	B 3
S27	B 3
S28	B 3
S29	B 3
S30	B 3
S31	B 3
S32	B 3
S33	B 3
S34	B 3
S35	B 3
S36	B 3
S37	B 3
S38	B 3
S39	B 3
S40	B 3
S41	B 4
S42	B 4
S43	B 4
S44	B 4
S45	B 4
S46	B 4
S47	B 4
S48	B 4
S49	B 4
S50	B 4
S51	B 4
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S53	B 3
S54	B 3
S55	B 3
S56	B 3
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S60	B 5
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S62	B 5
S63	B 5
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S70	B 5
S71	B 5
S72	B 5
S73	B 5
S74	B 5
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S80	B 5
S81	B 5
S82	B 5
S83	B 5
S84	B 5
S85	B 5
S86	B 5
S87	B 5
S88	B 5
S89	B 5
S90	B 5
S91	B 5
S92	B 5
S93	B 5
S94	B 5
S95	B 5
S96	B 5
S97	B 5
S98	B 5
S99	B 5
S100	B 5

GREEN LED : transmit

BATTERY 9V

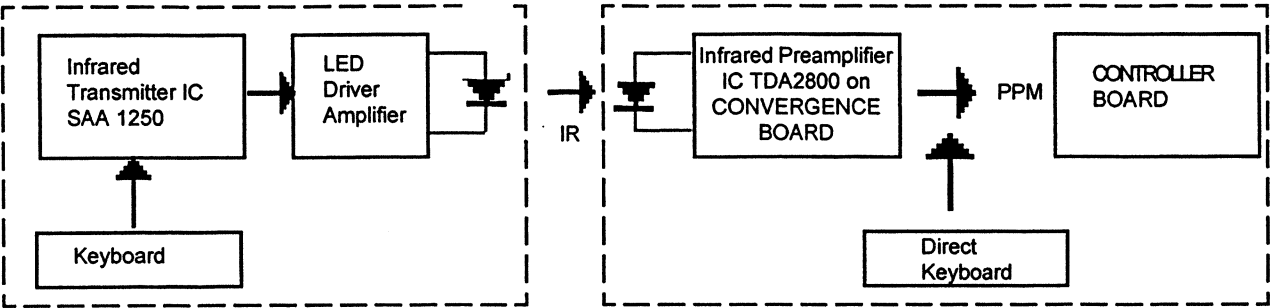
To remote Input

Name	Transmitter	Article nr.	79 1664-2
Date	22-01-1993	Drawn	JVDY
		Checked	SCG

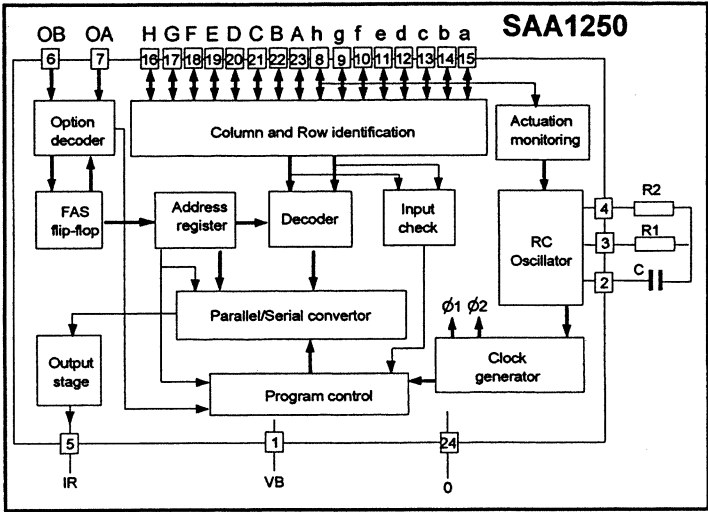
BARCO PROJECTION SYSTEMS

Modifications reserved

BLOCK DIAGRAM



BLOCK DIAGRAM IC SAA1250



Code for the OA and OB address inputs		
input	OA	OB
option I	H	H
option II	H	L
option III	L	H
free address selection	L*	L*

* L impulse (min.30us)

Used options:
Option III: alle commands are sent with address 10
Option: free address selection

Command table of the infrared transmitter IC SAA 1250

Command		Input code								Option III	Free Address Selection
No		a	b	c	d	e	f	g	h	Address 10	OA and OB to L potential
S5	Up	x									
S6	Down	x									
S7	Right	x									
S8	Left	x									
S9	Exit	x									
S10	Adjust	x									
S11	Enter	x									
S14	Text	x									
S15	Stdbby	x									
S16	Pause	x									

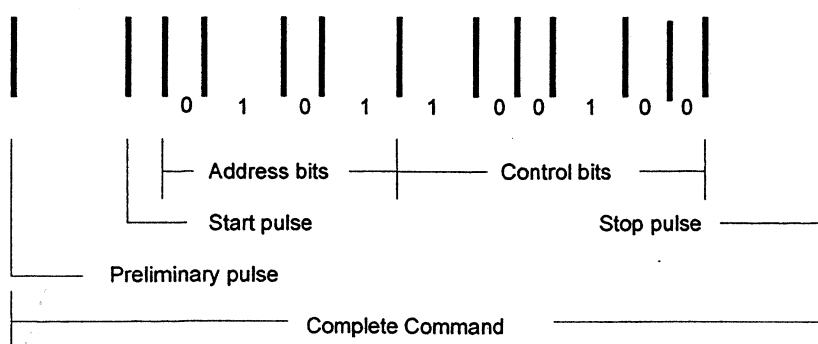
Command table of the infrared transmitter IC SAA 1250 (continuu)

Command	Input code		Option III	Free Address Selection
No	a b c d e f g h	A B C D E F G H	Address 10	OA and OB to L potential
S17 1	x	x		Address 1
S18 2	x	x		Address 2
S19 3	x	x		Address 3
S20 4	x	x		Address 4
S21 5	x	x		Address 5
S22 6	x	x		Address 6
S23 7	x	x		Address 7
S24 8	x	x		Address 8
S25 9	x	x		Address 9
S26 0	x	x		Address 10
S27				
S33 Address	x	x		FAS OFF
S41 Contr+	x	x		
S42 Contr -	x	x		
S43 Bright+	x	x		
S44 Bright -	x	x		
S45 Sat+	x	x		
S46 Sat -	x	x		
S47 Tint+	x	x		
S48 Tint -	x	x		
S55 Sharp+	x	x		
S56 Sharp -	x	x		

Operational mode

According to Table above, the SAA 1250 operates in two modes, which are determined via the OA and OB address input (see table on preceding page).

The first command is given about 20ms after contact actuation. All following commands are sent periodically every 130 ms.



The signals are transmitted by means of infrared light in the shape of packages pulses. For the transmission of a 10-bit word, 14 pulses are required. The binary information of a bit is contained in the time interval between two pulses. We define the time T (approx. 100us) as the basis for the code to be employed.

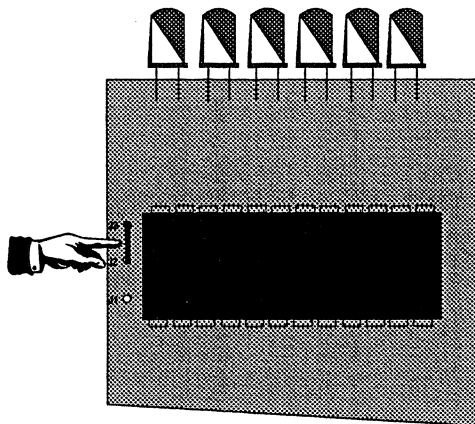
duration T = binary digit "0"
duration 2T = binary digit "1"

Spacing between preliminary pulse and start pulse 3T. This is followed after a 1T by the 11 data pulses and terminated after a 3T interval by the stop pulse.

Only for the Infra Red Remote control

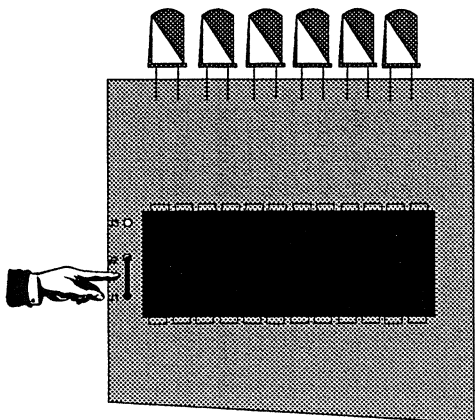
The OPTION III and the FREE ADDRESS SELECTION (FAS) are defined in the remote control RCU800 by means of an inserted jumper on the printed circuit board, see PCB lay-out.

FIXED ADDRESS SELECTION MODE



First signal is transmitted 20ms after key depression, further signals periodically in a distance of 130ms with Address 10.

FREE ADDRESS SELECTION MODE



First signal is transmitted 20ms after key depression, further signals every 130ms.

The commands can be transmitted consecutively to various addresses with free address selection.

In this mode the required address must be initially entered into the address register of the transmitter IC SAA1250, using one of the commands 17 to 32. Then all following commands are transmitted together with the stored address, including commands 17 to 32.

The command 33 (FAS off) clear, under the conditions of a L signal permanently applied to both address inputs, only the address register.

311.DRW

TRANSMITTER RCU

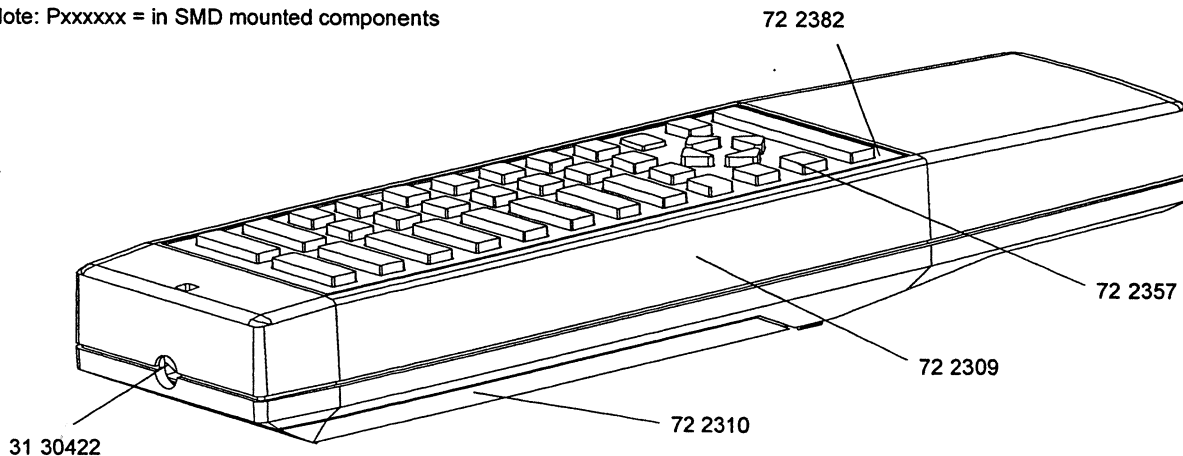
INTERNAL CONTROL UNIT

79 1664
79 1666

Parts listing Transmitter RCU 79 1664

ITEM NO.	SIT.	DESCRIPTION	ITEM NO.	SIT.	DESCRIPTION
P210137	C..1	C(S)CEC1CH1206COG101J50	P232122	Q..1	SMC(S)TRNPN BCX56 SOT89
11 11355	C..2	C EL AX1000M T 10E14 85	P232122	Q..2	SMC(S)TRNPN BCX56 SOT89
11 15915	C..3	C EL5 RA 4M7M 35E2 85	P232122	Q..3	SMC(S)TRNPN BCX56 SOT89
P210147	C..4	C(S)CEC1CH1206COG272J50	P232026	Q..4	SMC(S)TRA BC817-40
			P232026	Q..5	SMC(S)TRA BC817-40
			P232026	Q..6	SMC(S)TRA BC817-40
13 16666	D..1	D LED D5 T IR 89A2	13 2910	Q..7	Q BS170 FN SS TO92 060A5
13 16666	D..2	D LED D5 T IR 89A2			
13 16666	D..3	D LED D5 T IR 89A2	P200103	R..1	R# CE H 18K J 0W12 1206
13 16666	D..4	D LED D5 T IR 89A2	P200109	R..2	R# CE H 33K J 0W12 1206
13 16666	D..5	D LED D5 T IR 89A2	P200023	R..3	R# CE H 8E2 J 0W12 1206
13 16666	D..6	D LED D5 T IR 89A2	P200073	R..4	R# CE H 1K J 0W12 1206
P234063	D..7	SMC(S)DIOLED LGS260	P200001	R..5	R# CE H 1E J 0W12 1206
P234063	D..8	SMC(S)DIOLED LGS260	P200001	R..6	R# CE H 1E J 0W12 1206
P234063	D..9	SMC(S)DIOLED LGS260	P200001	R..7	R# CE H 1E J 0W12 1206
P234063	D..10	SMC(S)DIOLED LGS260	P200065	R..8	R# CE H470E J 0W12 1206
P234063	D..11	SMC(S)DIOLED LGS260	P200121	R..9	R# CE H100K J 0W12 1206
P234063	D..12	SMC(S)DIOLED LGS260	P200099	R..10	R# CE H 12K J 0W12 1206
P234063	D..13	SMC(S)DIOLED LGS260	P200049	R..11	R# CE H100E J 0W12 1206
P234063	D..14	SMC(S)DIOLED LGS260	P200041	R..12	R# CE H 47E J 0W12 1206
P234063	D..15	SMC(S)DIOLED LGS260	P200083	R..13	R# CE H 2K7 J 0W12 1206
P234063	D..16	SMC(S)DIOLED LGS260	P200095	R..14	R# CE H 8K2 J 0W12 1206
P234063	D..17	SMC(S)DIOLED LGS260	P200121	R..15	R# CE H100K J 0W12 1206
P234063	D..18	SMC(S)DIOLED LGS260	P200161	R..16	R# CE H 4M7 J 0W12 1206
P234063	D..19	SMC(S)DIOLED LGS260	P200105	R..17	R# CE H 22K J 0W12 1206
P234205	D..20	SMC(S)DISCH BAT54C SOT23	P200063	R..87	R# CE H390E J 0W12 1206
P234205	D..21	SMC(S)DISCH BAT54C SOT23	P200063	R..88	R# CE H390E J 0W12 1206
P234099	D..22	SMC(S)DIO 4148	P200063	R..89	R# CE H390E J 0W12 1206
P234099	D..23	SMC(S)DIO 4148	P200063	R101	R# CE H390E J 0W12 1206
13 7371	L..1	U 1250 SAA DIP24 PIRTRA			
31 30422	J...	J PHN FBS D 2.5MON P			
31 3196	J...	J BAT NWS P 2 9V			
78 0222	PC..	PCD#PJ52 D5000 TX			

Note: Pxxxxxx = in SMD mounted components



TRANSMITTER RCU

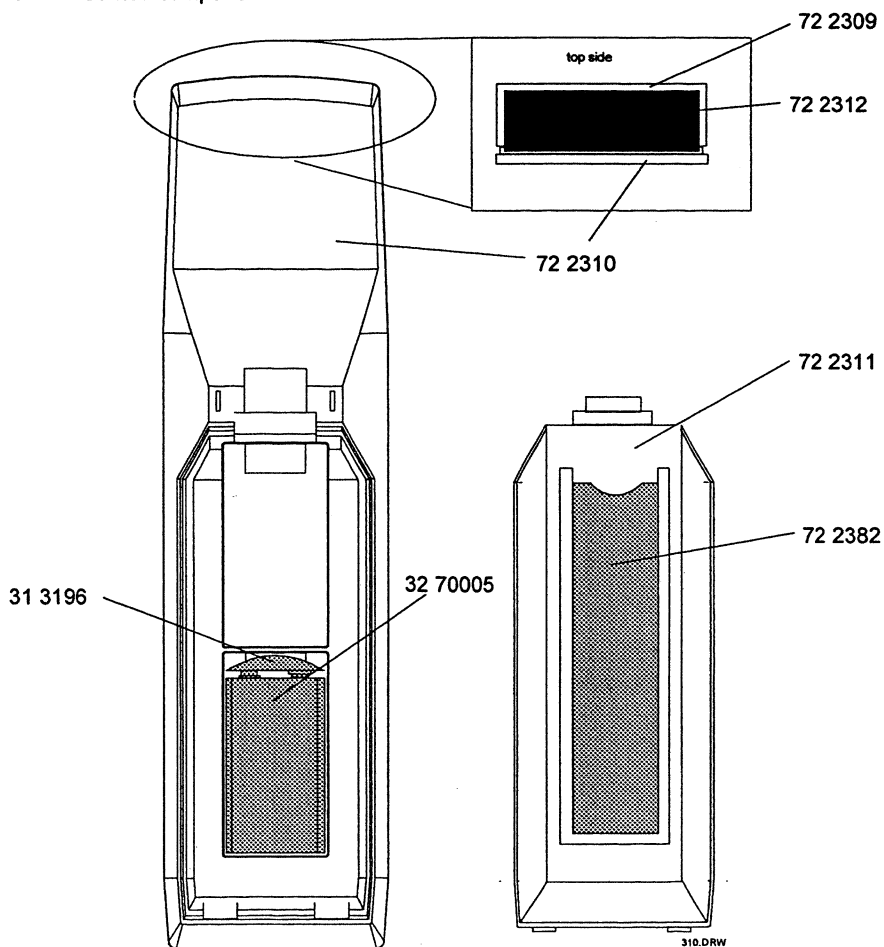
INTERNAL CONTROL UNIT

79 1664
79 1666

Spare parts Transmitter RCU 79 1664

ART.NO.	DESCRIPTION	QUANTITY	ART.NO.	DESCRIPTION	QUANTITY
1316666	D LED D5 T IR 89A2	6	72 2309	HSG PJ49 TX2 CVR UP	1
132910	Q BS170 FN SS TO92 060A5	1	72 2310	HSG PJ49 TX2 CVR DN	1
137371	U 1250 SAA DIP24 PIRTRA	1	72 2311	HSG PJ49 TX2 CVR BAT	1
3130422	J PHN FBS D 2.5MON P	1	72 2312	HSG PJ49 TX2 WDW IR	1
313196	J BAT NWS P 2 9V	1	72 2353	HSG PJ53 TX2 FOIL V700	1
3270005	BAT 9V 6F22 ALK 0A525	1	72 2357	SW KYBD RUB PJ53 TX V700	1
3615075	SCR HILO_P 3.2X 8,5HS B	1	72 2382	HSG PJ49 TX2 LFLT WDW	1
5975045	LFLT RCU700 TX	1	78 0222	PCD#PJ52 D5000 TX	1

Note: Pxxxxxx = in SMD mounted components



TRANSMITTER RCU

INTERNAL CONTROL UNIT

79 1664
79 1666

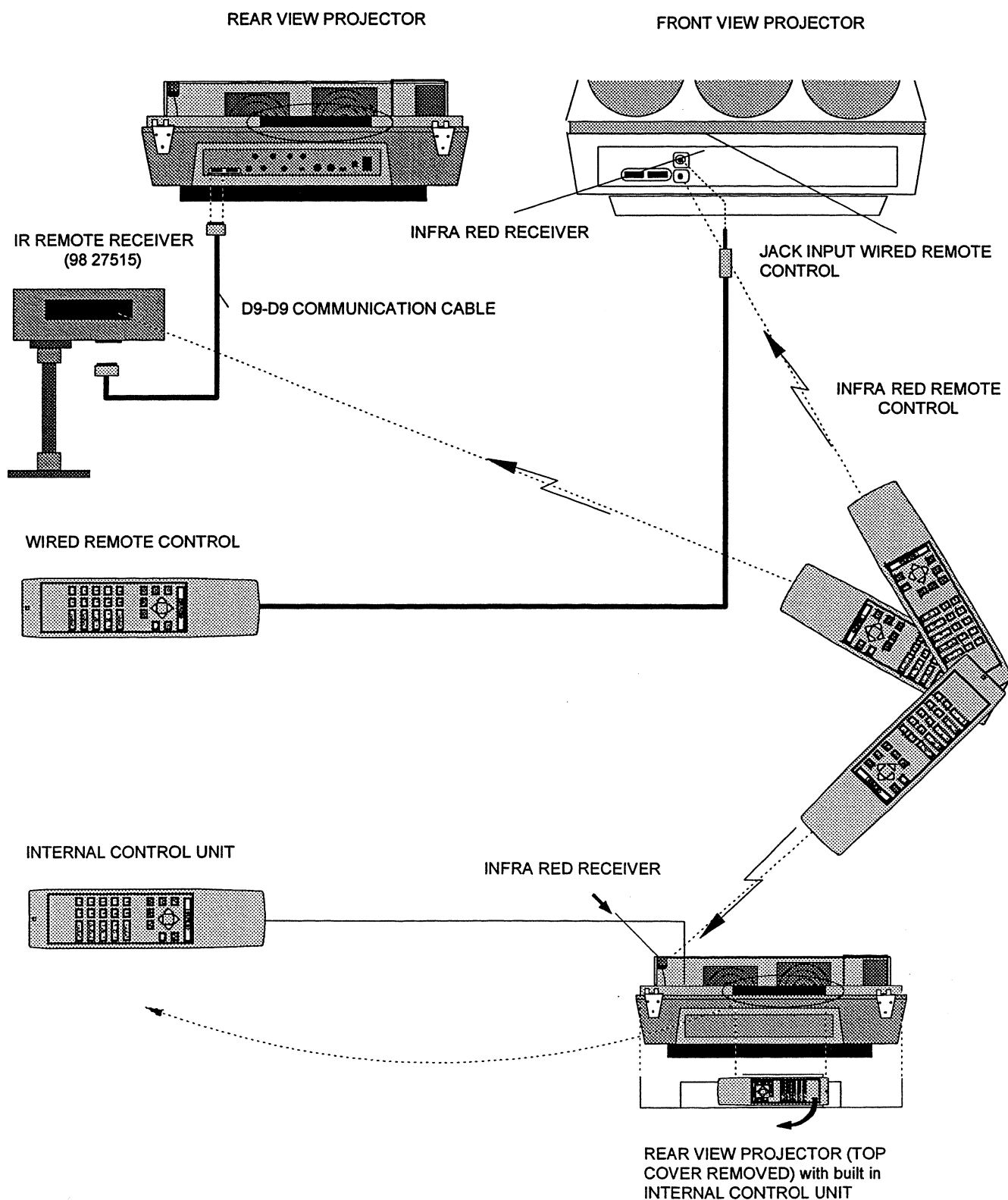
Parts listing Internal control unit 79 1666

ITEM NO.	SIT.	DESCRIPTION	ITEM NO.	SIT.	DESCRIPTION
79 1666P		UN#TX PJ51 RCU1200/2 W	13 7371	I..1	U 1250 SAA DIP24 PIRTRA
11 11555	C..2	C EL AX 2M2T 25E7 85	31 3944	J..1	J CT MBS P 4 M2SN

Spare parts Internal control unit 79 1666

ART.NO.	DESCRIPTION	QUANTITY	ART.NO.	DESCRIPTION	QUANTITY
13 7371	U 1250 SAA DIP24 PIRTRA	1	72 2309	HSG PJ49 TX2 CVR UP 02	1
31 3944	J CT MBS P 4 M2SN	1	72 2353	HSG PJ53 TX2 FOIL V700	1
36 3601	SCR D7981C 2.9X 6.5PS Z	2	72 2357	SW KYBD RUB PJ53 TX V700	1
71 23023	WSHR D 3.25X 7 T0.5 L	2	79 1666P	UN#TX PJ51 RCU1200/2 W	1

FLOW CHART "PROJECTOR CONTROL"



FLOW CHART "PROJECTOR CONTROL"

