

CENTRAL CONTROLLER PACKAGE SCP-4A & SCP-4X  
INSTALLATION MANUAL



INTEGRATED HOME ENTERTAINMENT

## WARNING

DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.  
REFER SERVICE TO QUALIFIED PERSONNEL ONLY.  
FOR CONTINUED FIRE PROTECTION REPLACE FUSES WITH ORIGINAL TYPE AND RATING ONLY.  
DO NOT EXPOSE UNIT TO MOISTURE. DISCONNECT A.C. CORD BEFORE REPLACING FUSE.



### WARNING

SHOCK HAZARD  
DO NOT OPEN

### AVIS

RISQUE DE CHOC  
ELECTRIQUE  
NE PAS OUVRIR

## Safety Instructions

1. Read Instructions -All the safety and operation instructions should be read before The QED Component is operated.
2. Retain Instructions - The safety and operating instructions should be kept for future reference.
3. Heed warnings -All warnings on the component and in these operating instructions should be followed.
4. Follow Instructions -All operating and other instructions should be followed.
5. Water and Moisture - The Component should not be used near water - for example near a bath, washbowl, kitchen sink in a wet basement or near a swimming pool, etc.
6. Heat - The Component should be situated away from Heat sources such as radiators or other devices which produce heat.
7. Power Sources - The component should be connected to a power supply only of the type described in these operation instructions or as marked on the Component.
8. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles and the point where they exit the component.
9. Non-Use Periods - The power cord of the Component should be unplugged from the outlet when unused for a long period of time.
10. Object and Liquid Entry - Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the Component.
11. Damage Requiring Service - The Component should be serviced only by qualified service personnel when:
  - A) The power-supply cord or the plug has been damaged: or
  - B) Objects have fallen, or liquid has spilled into the component: or
  - C) The Component has been exposed to: rain or
  - D) The Component does not appear to operate normally or exhibits a marked change in performance: or
  - E) The Component has been dropped, or its cabinet damaged.
12. Servicing -The user should not attempt to service the component beyond those means described in this operating manual. All other servicing should be referred to qualified service personnel.
13. Grounding or Polarization - Precautions should be taken so that the grounding or polarization means of the component is not defeated.

## Guarantee

All products are covered by a 2 year guarantee for parts and labour. Site visits are not covered, by this guarantee and will normally result in a call out charge if such a visit is requested or deemed necessary.



**A** PACKAGE CONTENTS

**B** MINIMUM ADDITIONAL REQUIREMENTS

**C** INTRODUCTION TO MULTI-ROOM

**D** PLANNING THE INSTALLATION

**E** WIRING

**F** OPERATION

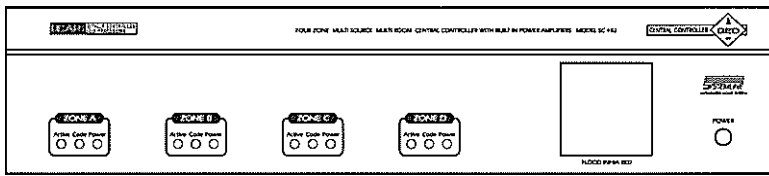
**G** EXPANSION

**H** TECHNICAL SPECIFICATION

**I** FAULT FINDING TIPS

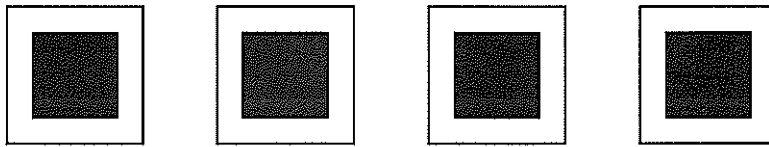
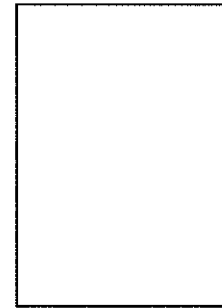
**A** PACKAGE CONTENTS

CENTRAL CONTROLLER PACKAGE - SCP-4A



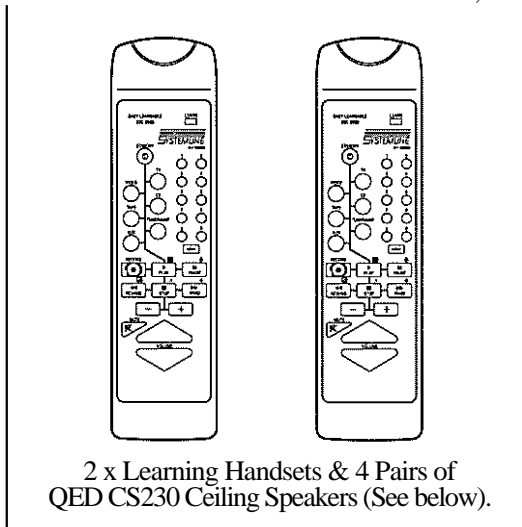
1 x Central Controller

1 x Installation Manual



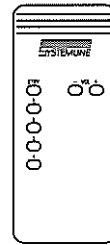
4 x Display/Eyes

ADDITIONAL ITEMS IN SCP-4X PACKAGE,

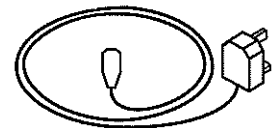


2 x Learning Handsets & 4 Pairs of QED CS230 Ceiling Speakers (See below).

1 x Fixed code Handset

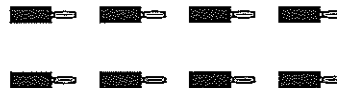


1 x Learning Handset instructions

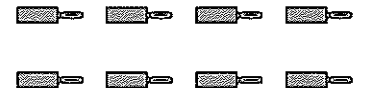


1 x A.C. mains cord

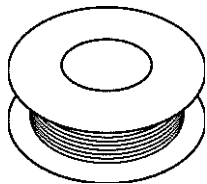
8 x Black 4mm plugs



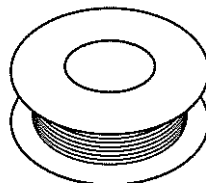
8 x Red 4mm plugs



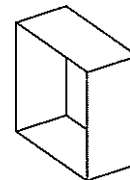
**B** MINIMUM ADDITIONAL REQUIREMENTS



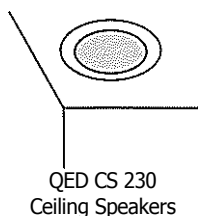
Data cable: SL-C



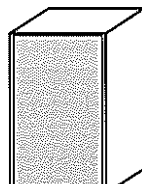
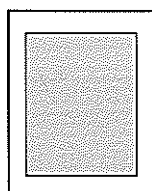
Speaker cable: QED 79 strand



Deep in-wall boxes or surface boxes for Display/Eyes - See planning section



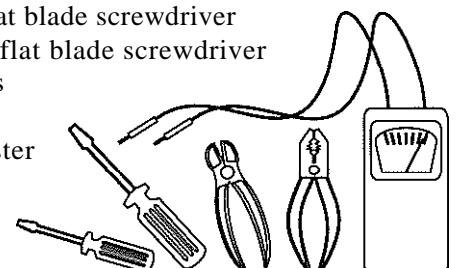
QED CS 230 Ceiling Speakers



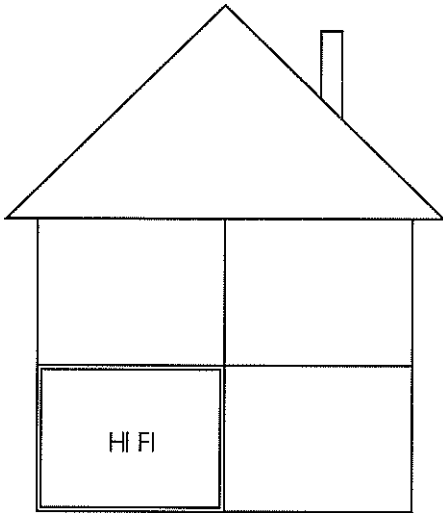
Ceiling in-wall or free standing speakers

Basic tools:

- Very small flat blade screwdriver
- medium size flat blade screwdriver
- wire strippers
- wire cutters
- continuity tester

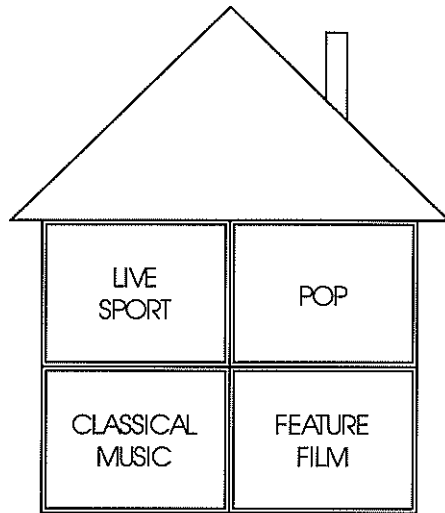


WITHOUT SYSTEMLINE



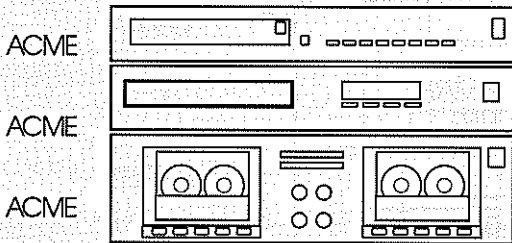
HI FI IS LIMITED TO USE IN ONLY ONE ROOM

WITH SYSTEMLINE

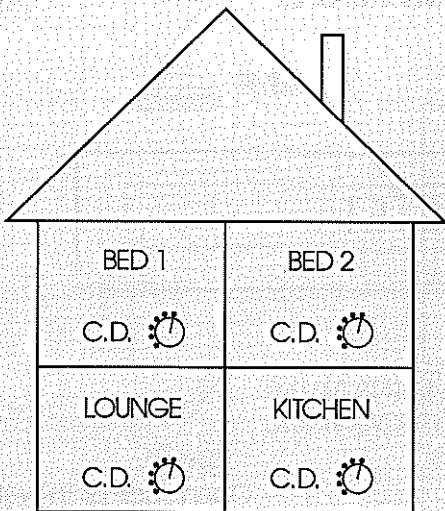


HI FI, VIDEO, SATELLITE OR CABLE TV CAN BE USED ANYWHERE IN THE HOME WITH FULL INFRA-RED REMOTE CONTROL

ONE BRAND MULTIROOM SYSTEMS

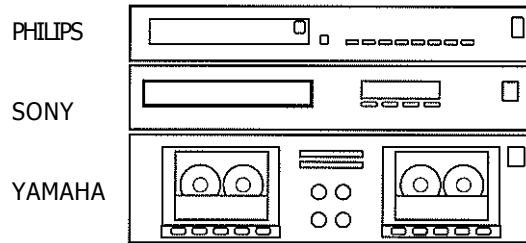


FOREVER LIMITED TO THAT BRAND WITH OFTEN ONLY SINGLE SOURCE SINGLE ZONE OPERATION



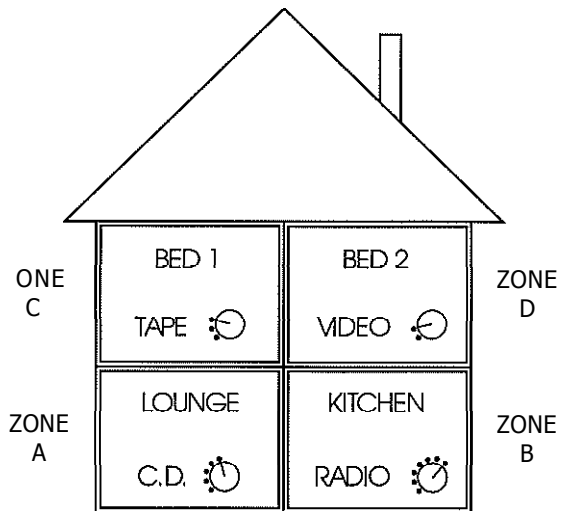
C.D.   
Same sound common to all rooms  
volume levels common to all rooms.

SYSTEMLINE UNIVERSAL MULTIROOM SYSTEM CAN BE USED WITH ALMOST ANY BRAND\*



\*EXCEPT B & 0

SYSTEMLINE OFFERS MULTI SOURCE MULTI ZONE OPERATION



C.D.  RADIO  TAPE  VIDEO 

- ✓ Independent source selection
- ✓ Independent volume levels.



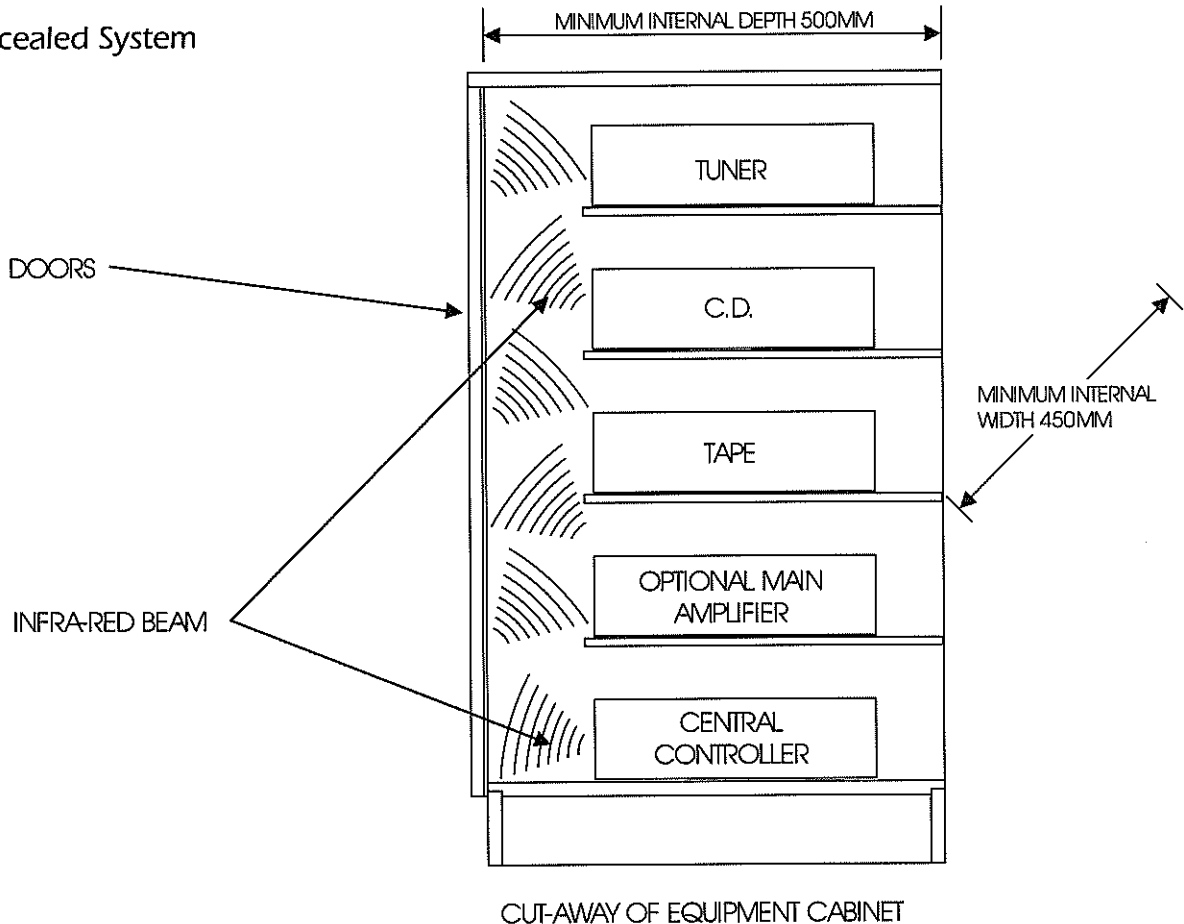
## PLANNING THE INSTALLATION

1 Decide on the Central location point. This may be governed by existing wiring such as Satellite or TV points or be determined by the location of the existing Hi Fi system. In which case, the central location point will probably be in the lounge or family room. Alternatively, if the multi room system is to operate separately from (or instead of) the main Hi H system, the central location point could be anywhere. Hidden in a cabinet in the hall or even under the staircase- the only access required is to change discs or tapes. See also recommended A/V wiring.

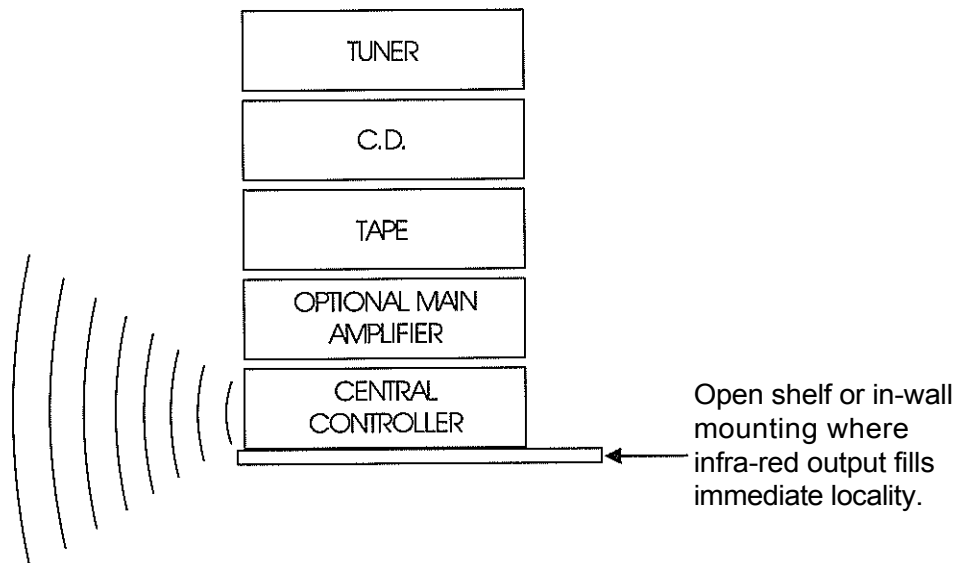
### 2) Housing the multi room system

This is at least partly governed by the location, but there are two main options.

#### Concealed System



#### Exposed System





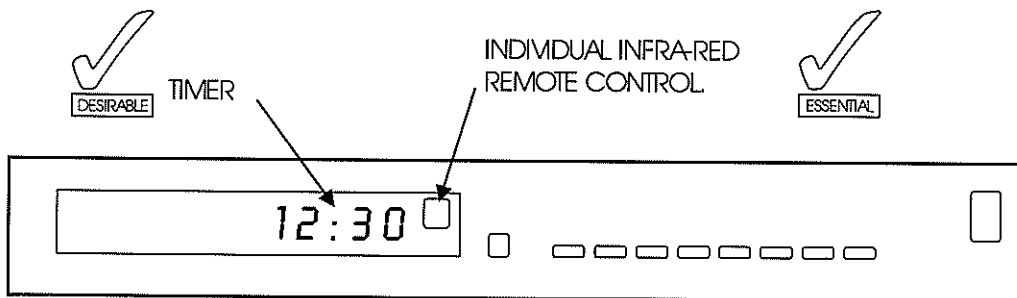
# PLANNING THE INSTALLATION

## 3) SOURCE COMPONENTS - MULTI ROOM SUITABILITY

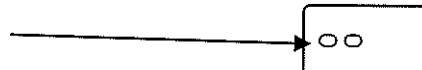
RADIO TUNER		*****
MULTI DISC C.D.		*****
SINGLE DISC C.D.		***
TAPE		***
SATELLITE RECEIVER		*****
VIDEO		***
TURNTABLE		*

## 4) WHAT TO LOOK FOR

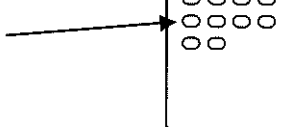
### TUNERS



PRE-SET STATIONS SKIP UP OR DOWN FACILITY.

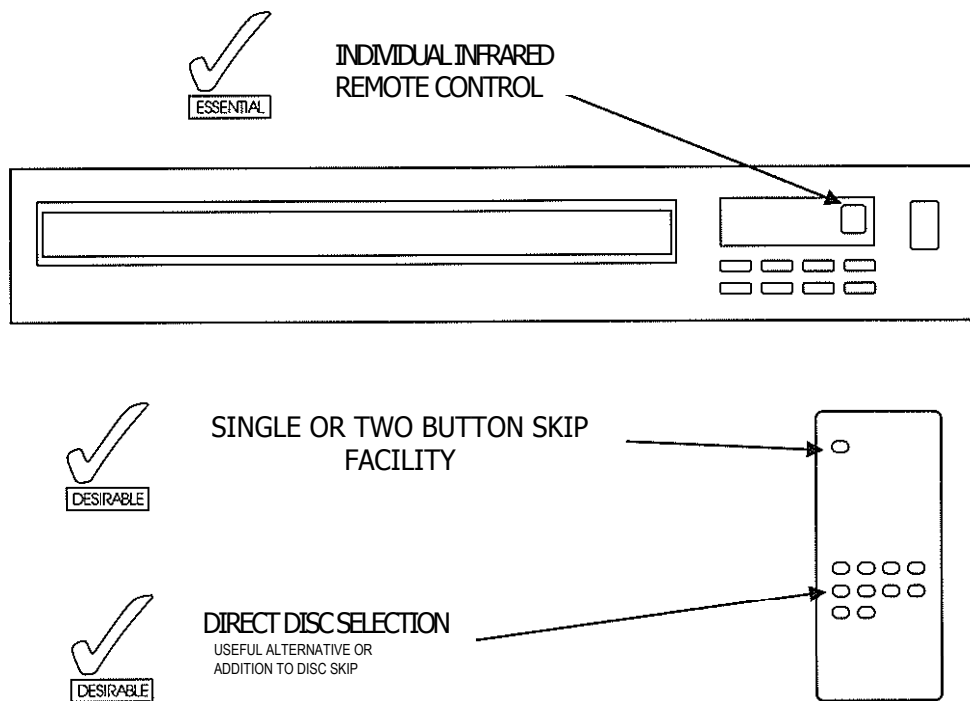


INDIVIDUAL DIRECTLY ACCESSIBLE PRE-SET STATION SELECTION.



## **D** PLANNING THE INSTALLATION

### 5) MULTI C.D. PLAYERS



### 5) General Notes

It is not uncommon for a remote control handset supplied with a Tuner or C.D. player to have only direct pre-set channel selection or direct disc selection. However, by investigating other handsets within the same manufacturers range, typically the Receiver and System handsets, the missing pre-set channel Skip and Disc Skip can be found. Yamaha (tuner) and Pioneer (CD players) are good examples of this.

Generally speaking avoid midi systems for use with Systemline (they are OK for Roomlink) or any infra-red data bus connected systems which only permit one source to be on at any given time. An exception to this rule is for example the Philips 900 series Hi Fi System as the data bus may be switched off to permit individual source selection. To avoid any compatibility problem, with the learning handset choosing R.C.5\* code compatible products when possible is recommended.

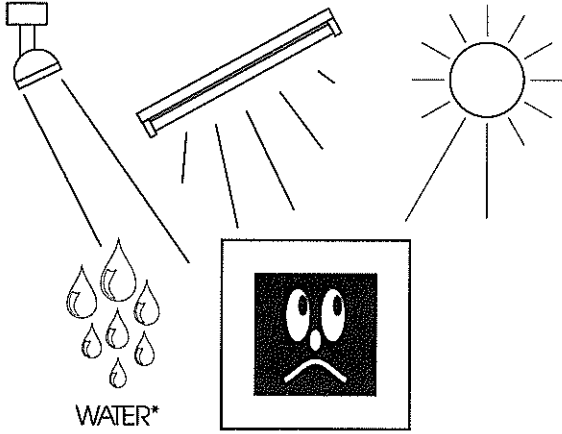
\* R.C.5 is a recognised infra-red code set devised by Philips and used by a number of companies.



# PLANNING THE INSTALLATION

## 6) MOUNTING THE DISPLAY/EYE

AVOID



WATER\*

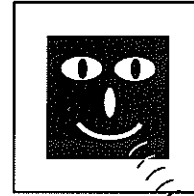
AVOID DIRECT SPOT OR FLUORESCENT LIGHTING OR INTENSE LIGHT FROM SUNSHINE.

\*CAN BE USED IN DAMP ENVIRONMENT IF SEALED

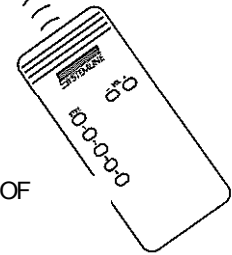
YES PLEASE



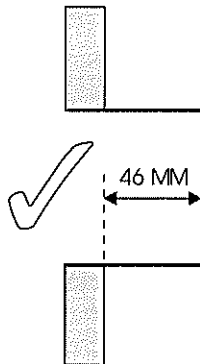
DAZZLE FREE ENVIRONMENT



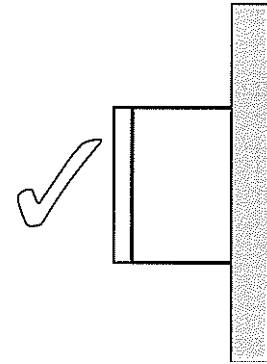
POSITION FOR LINE OF SIGHT OPERATION



AVOID SHALLOW BOXES

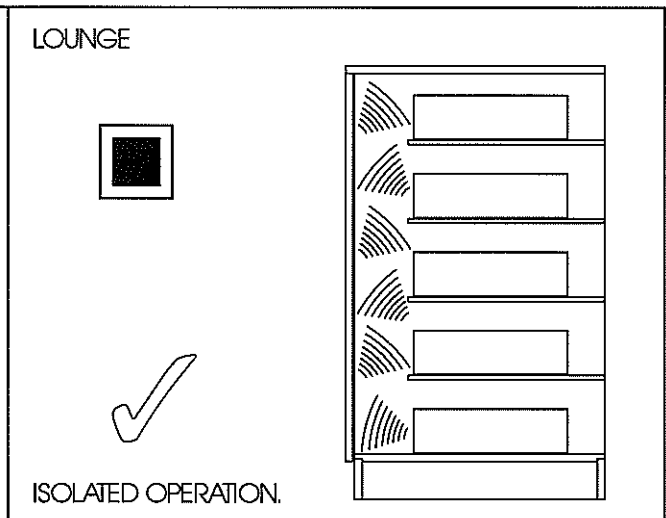
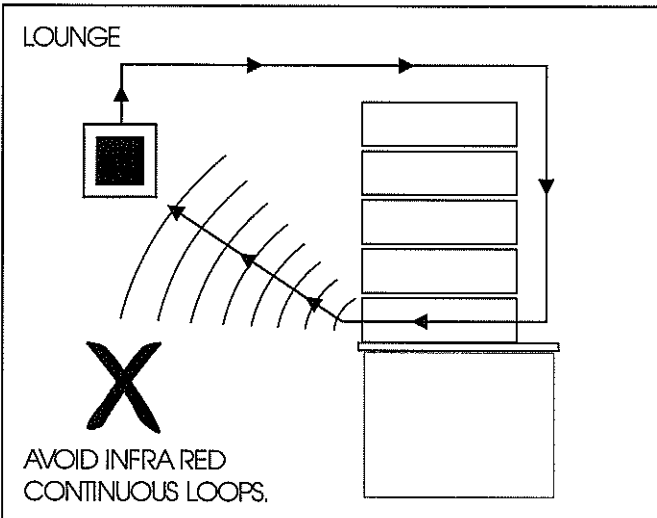


USE 44 MM DEEP WALL BOX MK TYPE: 877ZIC OR SIMILAR



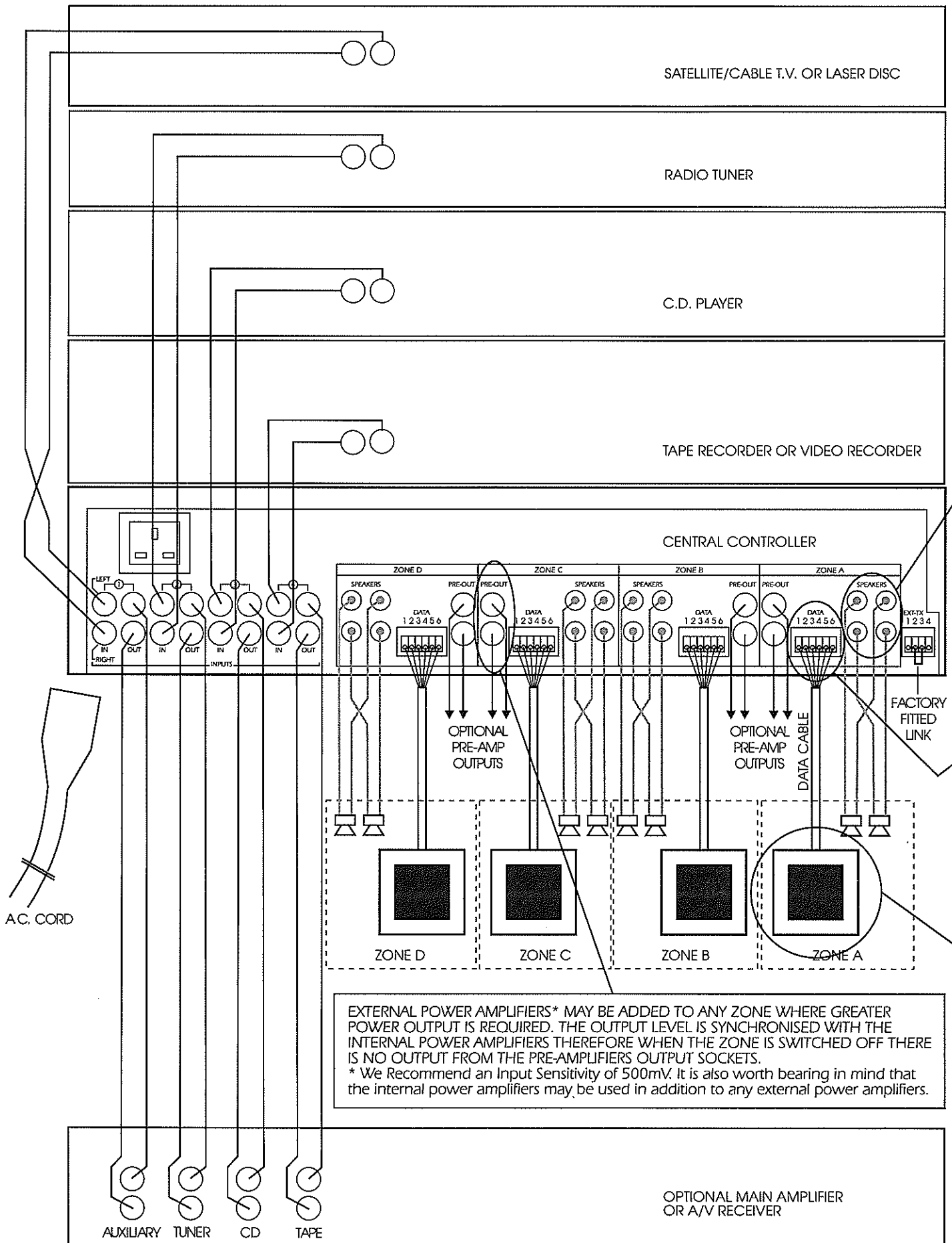
WM01 SURFACE MOUNT BOX

## 7) WARNING AVOID INFRA RED LOOPS



# E WIRING

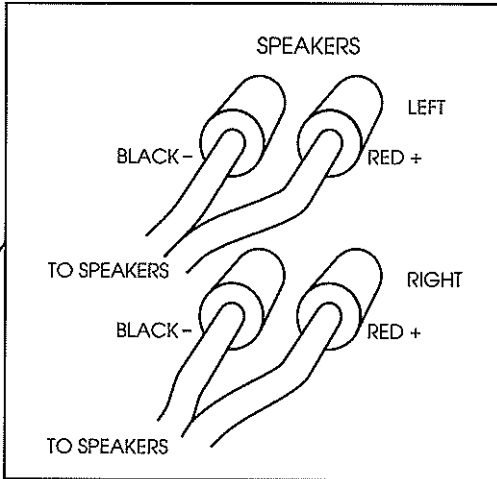
## CONNECTING THE SOURCE EQUIPMENT TO THE CENTRAL CONTROLLER- (CONNECTION OVERVIEW).



**IMPORTANT PRECAUTIONS**

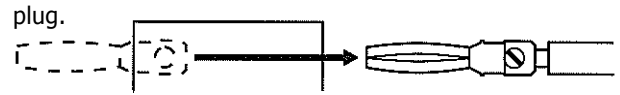
Before connecting any wiring to the Central Controller, particularly speaker wiring check for any short circuits using a continuity tester. Make sure both the Central Controller and all source equipment are switched off prior to commencing wiring

**SPEAKER CABLE AND DATA CABLE WIRING**



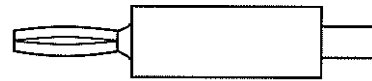
**HOW TO FIT THE SPEAKER PLUGS**

1) Unscrew pin through body of

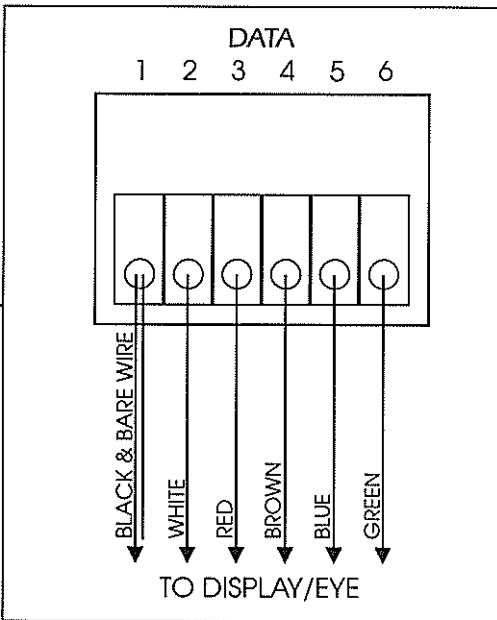


2) Strip back cable and twist strands together as tightly as possible.

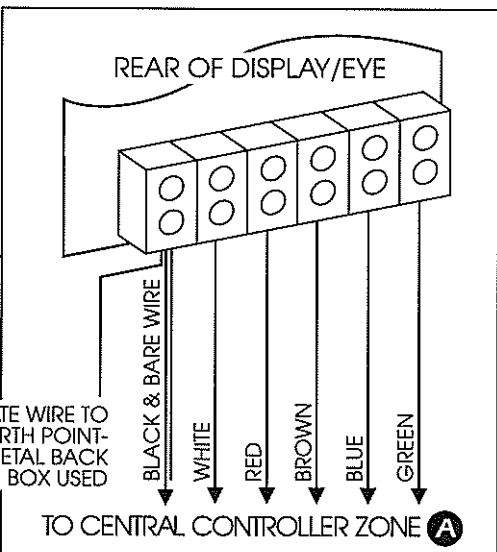
3) Push cable into pin receptacle and screw down firmly.



4) Screw on plug body.

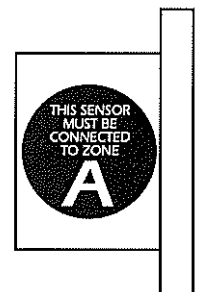


**NOTE:** Run a separate pair of speaker cables from the Central Controller to each of the four zones together with a Systemline data cable to each zone - do not loop cables from one zone to the next.



**IMPORTANT**

DISPLAY/EYES ARE IDENTIFIED 'A' 'B' 'C' OR 'D' AND MUST BE CONNECTED TO THE CORRECT ZONE,



**WARNING:** Never fit QED -Style- module to same housing as a high-voltage AC electric light switch or dimmer.

Use a flat blade screw driver to lever off the fascia panel prior to screwing module in to wall box. after fitting, simply clip back into place.

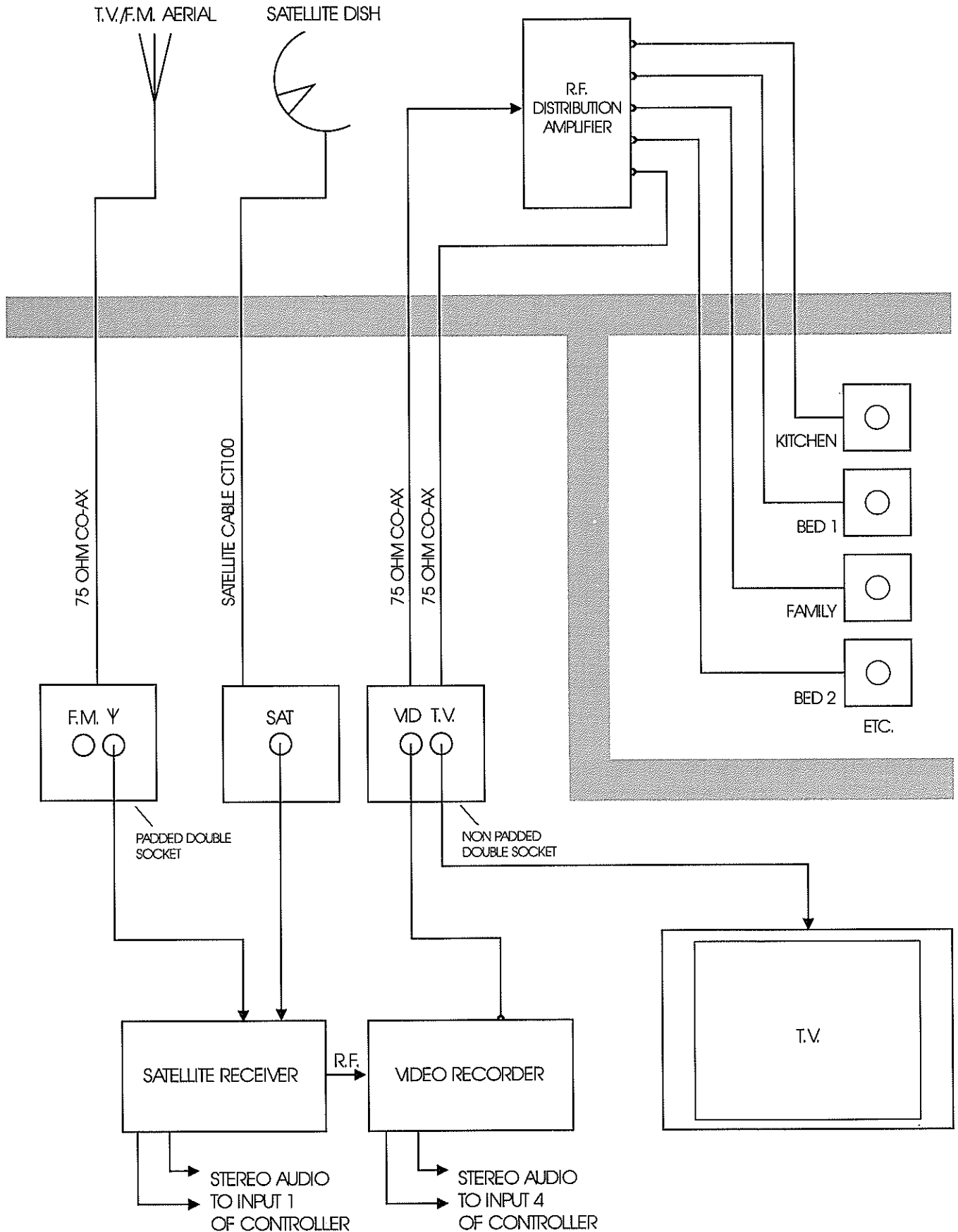




# WIRING .

..

## RECOMMENDED CONFIGURATION FOR PRE-WIRING FOR ROUND THE HOUSE SATELLITE & VIDEO USE

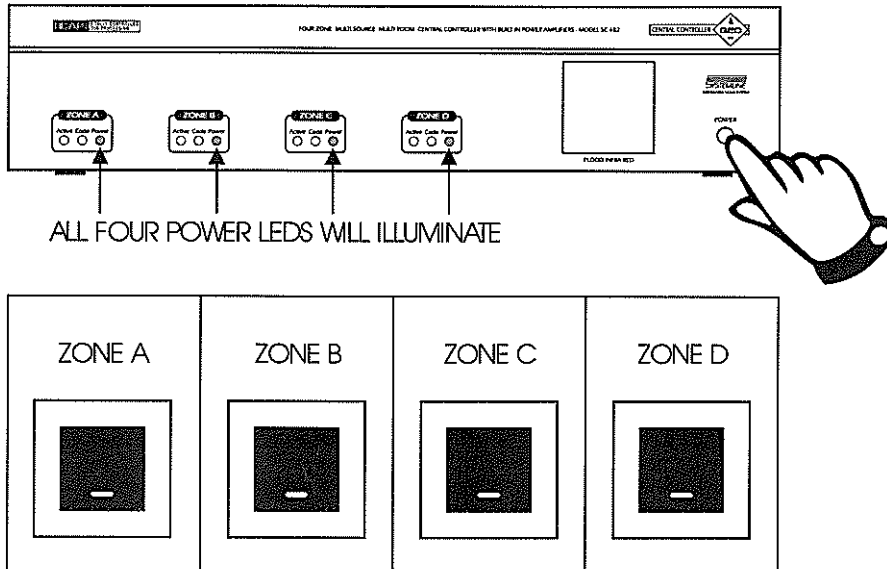


# F OPERATION

Only after all the wiring is complete and has been checked for short circuits, should you follow the switch on procedure shown below:

1 Switch on all source components and press play buttons for both the C.D. player and tape deck.

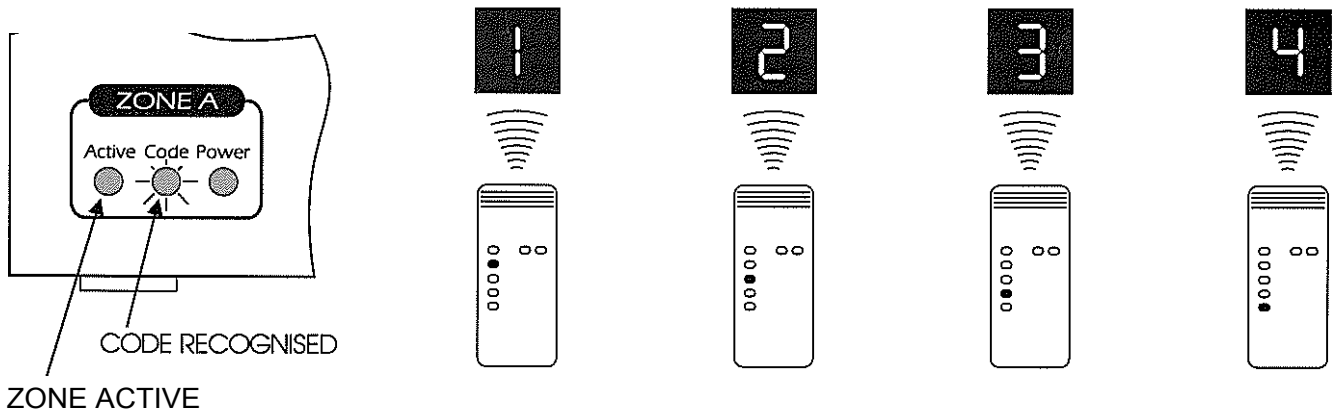
2) Switch on Central Controller



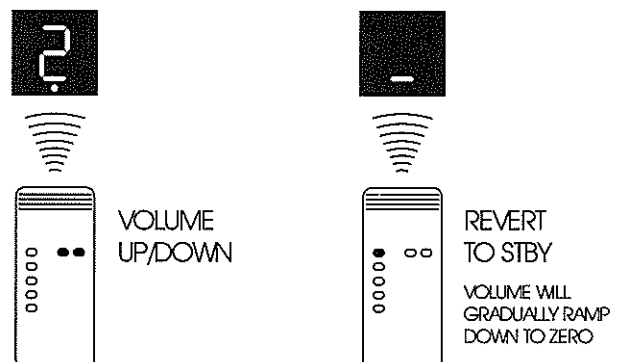
All four zones (or however many connected) will indicate standby bar on DISPLAY/EYE.

Select any of the four inputs to switch a zone on, to switch off select standby. When switched on, the zone volume will be at a low but audible level. Volume can now be adjusted as required. When switched off, the zone volume will ramp down gently until zero volume, at which point a relay will fully disconnect the speaker output.

## ZONE 'A

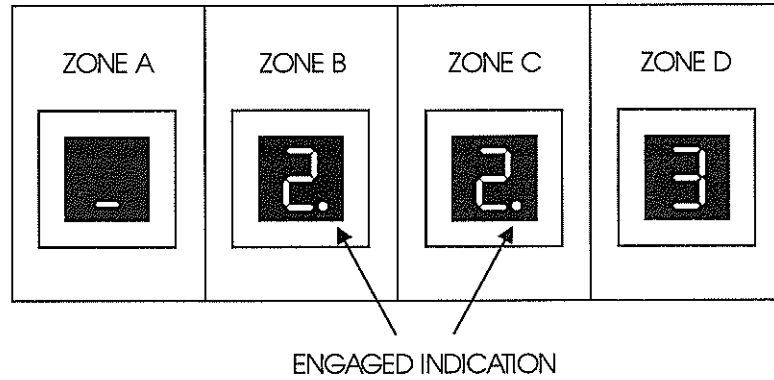


As input selection button pressed, the 'Active' led on Central Controller will illuminate. The 'Code' led will flash on recognition of any of the seven command functions from the fixed code handset and stereo sound will be heard through the speakers for each of the inputs selected.



ZONES B, C & D AS PER ZONE A

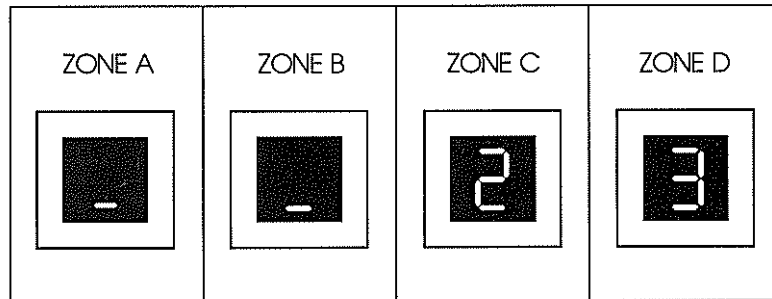
ENGAGED INDICATION



When the same source is selected in two or more different zones, a small led will illuminate along side the source number.

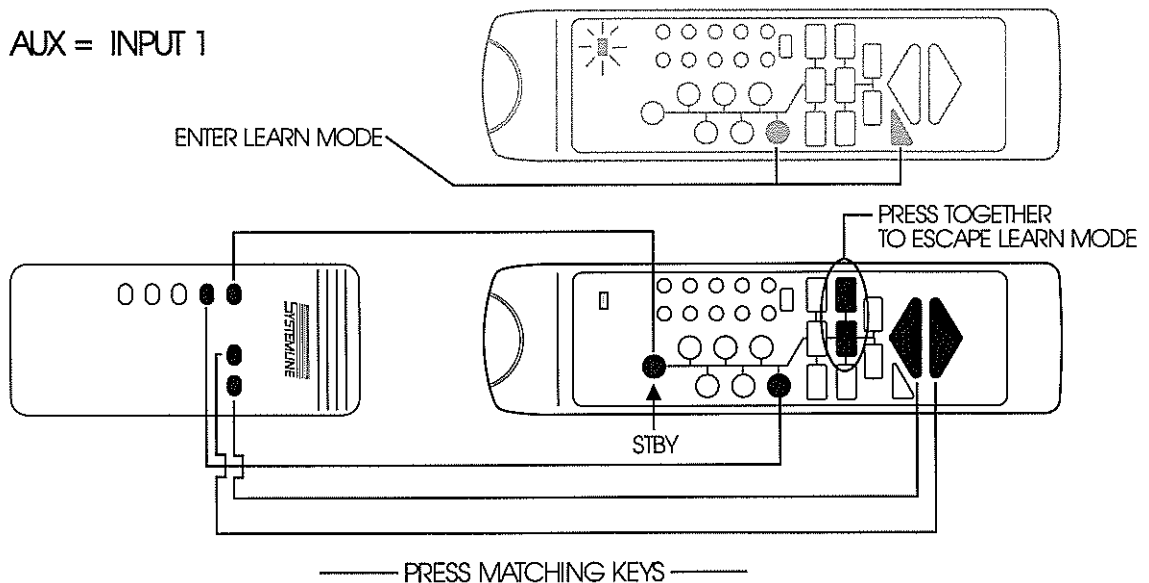
This is to let the respective users know that more than one person is listening to that input making it impolite to change stations or tracks etc. Volume however remains independent.

As soon as one or other of the users switches off or chooses an alternative input, the Engaged led will extinguish.



TEACHING THE LEARNING HANDSET

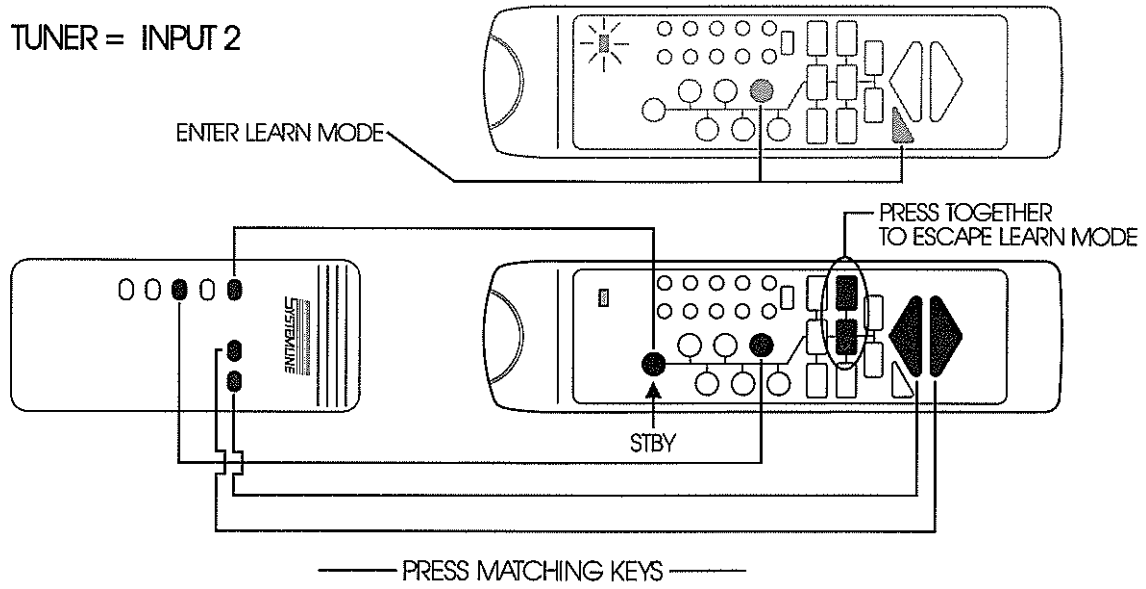
The Central Controller codes using the Fixed code handset. - refer also to the supplied Learning handset instruction booklet.



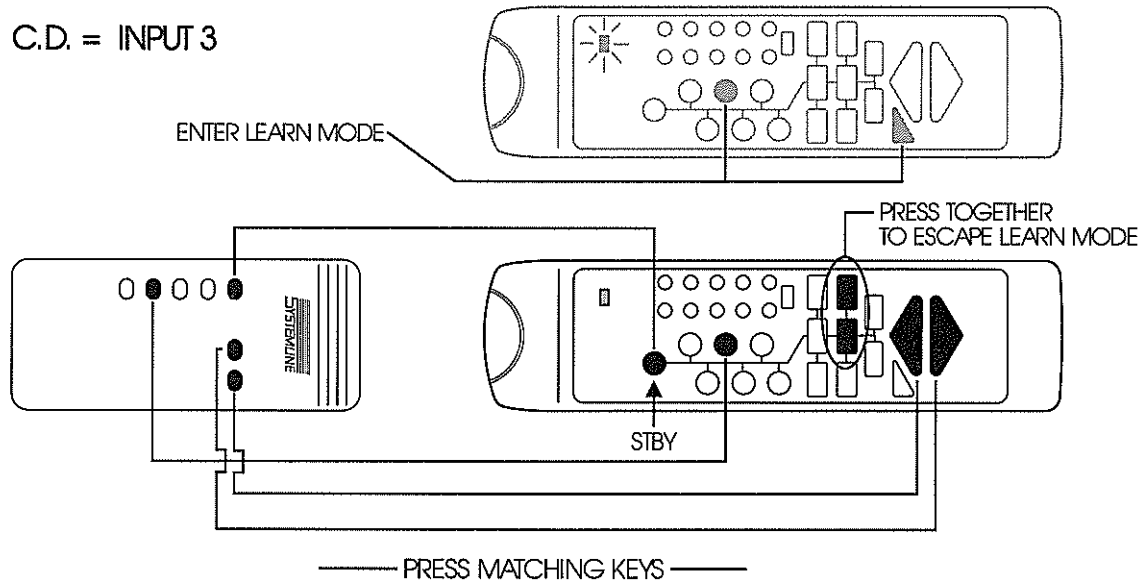


# OPERATION

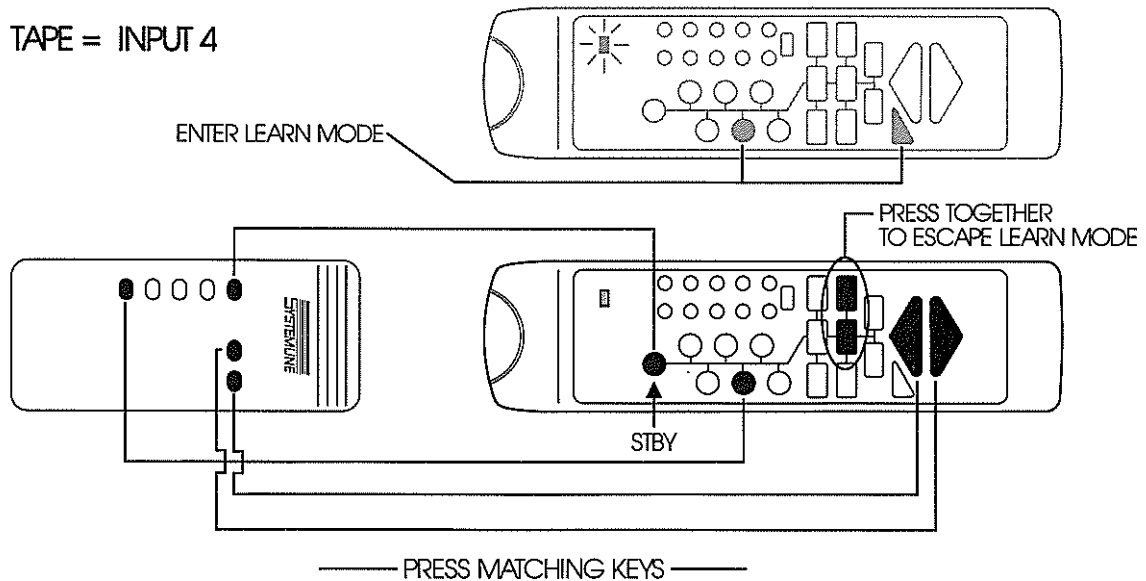
TUNER = INPUT 2



C.D. = INPUT 3



TAPE = INPUT 4





## OPERATION

The learning Handset is pre programmed for 'R.C.5' (Philips) codes and will therefore immediately operate a number of manufacturers TV and Hi Fi products.

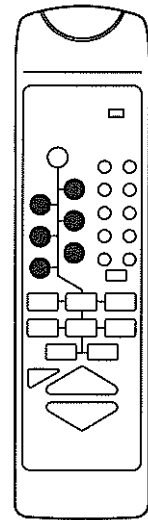
If however any of your source components do not operate on the R.C.5 code system, it is often possible to teach the Learning Handset alternative manufactures codes by following the Learning Handset instructions booklet.

Neither QED AUDIO PRODUCTS LTD or PHILIPS CONSUMER ELECTRONICS guarantee that the learning Handset will learn all codes, it is therefore worth verifying compatibility prior to choosing source equipment.

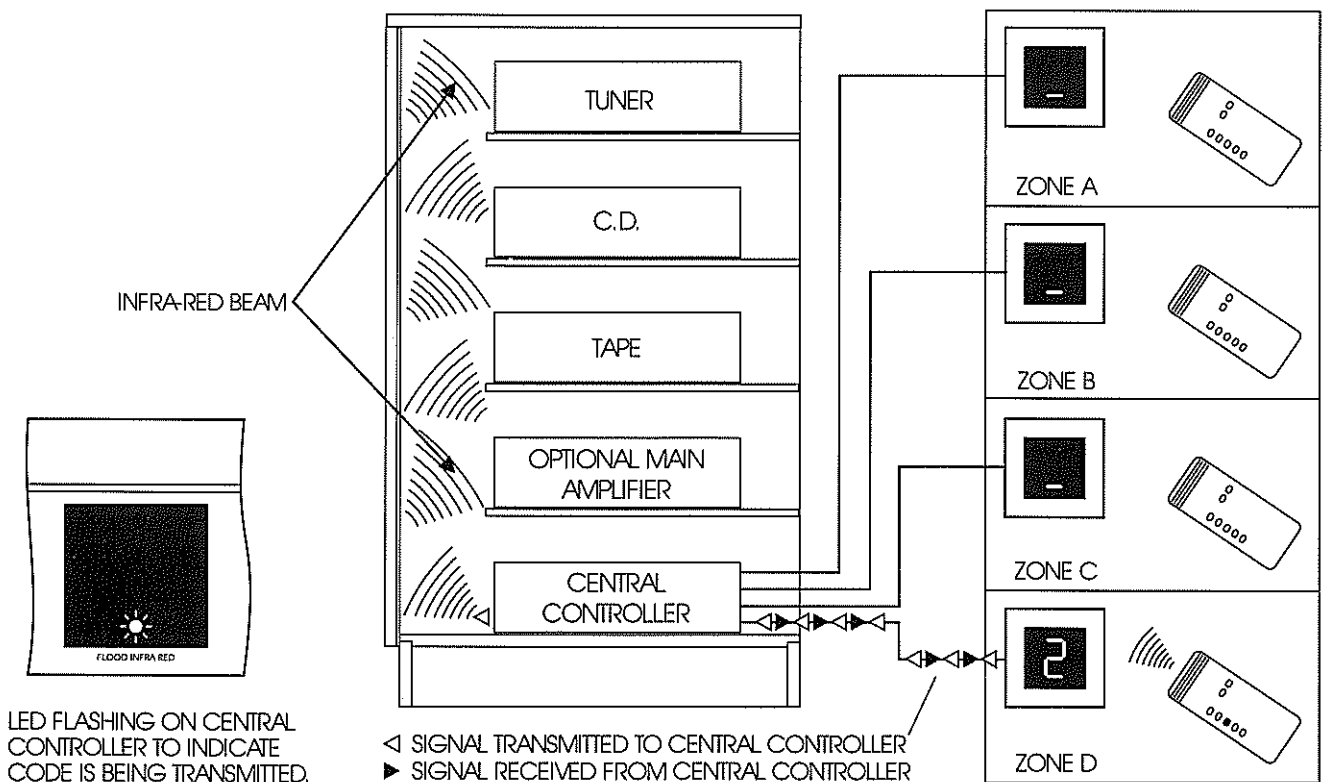
### Using the learning Handset

The Central Controller functions operate in the same way as with the fixed code handset, however there is a slight delay on the operation of all source selection buttons on the learning handset so refer to Display/Eye for confirmation of operation.

Infra red codes received by the DISPLAY/EYE are transferred to CENTRAL CONTROLLER via a data wire. When input selection is received, a code is sent back to the EYE to display the correct input designation. This method is also used to convey the Engaged code. If a code is sent to tell for example a CD player to 'skip track', this code is re-transmitted from the flood infra red window on the front of the CENTRAL CONTROLLER, and received and acted upon by the C.D. player in exactly the same way as it would if it received the code directly from the original handset.



### INFRA RED LINK - HOW IT WORKS



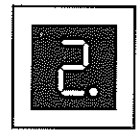


## OPERATION

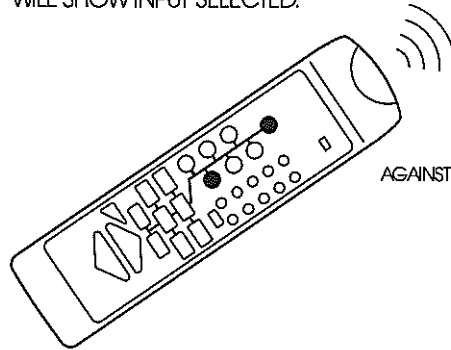
### Using the *TUNER VIA* Systemline

- 1) To switch ON, requires only one button to be pressed, after which volume can be adjusted as required.
- 2) To change radio stations, just press one of the ten pre-set channel buttons.
- 3) To switch OFF press the STANDBY button.

AFTER SWITCH ON DISPLAY/EYE WILL SHOW INPUT SELECTED.



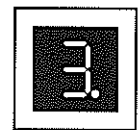
ENGAGED LED WILL ILLUMINATE IF TUNER IS ALSO IN USE ELSEWHERE TO ADVISE AGAINST CHANGING STATIONS.



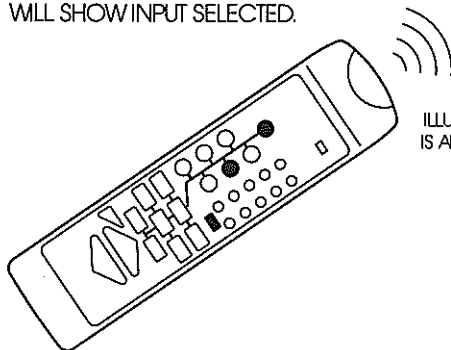
### Using the C.D. multi player

- 1) To switch ON, press CD button followed by PLAY button, after which adjust volume as required.
- 2) Other functions such as skipping tracks etc. can be carried out using the other function buttons.
- 3) There is no specific button on the Philips learning Handset for 'DISC SKIP', we therefore recommend that the code is programmed into the -/- button.
- 4) To switch OFF first press the STOP button followed by the STANDBY button.

AFTER SWITCH ON DISPLAY/EYE WILL SHOW INPUT SELECTED.



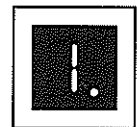
ENGAGED LED WILL ILLUMINATE IF C.D. PLAYER IS ALSO IN USE ELSEWHERE TO ADVISE AGAINST CHANGING DISCS.



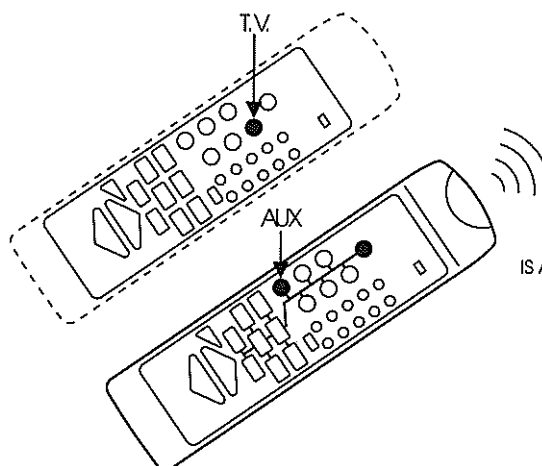
### Using an A/V source e.g. Satellite receiver

- 1) Press TV. button on handset followed by satellite channel (e.g. ch 5). (These functions can be carried out either with the original TV handset or using the learning Handset.)
- 2) Now press AUX button followed by the number of the satellite channel you require. The correct programme should now appear on the TV screen together with Hi Fi stereo sound via Systemline, adjust volume to suit.
- 3) To switch OFF press STANDBY button and the sound will cease. Now press T V button followed by STANDBY to switch off the TV (or use original T V handset).

AFTER SWITCH ON DISPLAY/EYE WILL SHOW INPUT SELECTED.



ENGAGED LED WILL ILLUMINATE IF SATELLITE IS ALSO IN USE ELSEWHERE TO ADVISE AGAINST CHANGING SATELLITE CHANNELS.

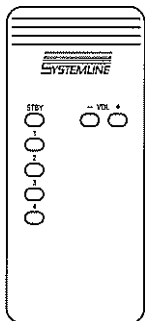


### IMPORTANT NOTICE

All six input buttons on the Learning Handset T V VIDEO, AUX, CD, TUNER & TAPE have a built in operating delay, refer to DISPLAY/EYE to confirm that input is selected.

## Using the FIXED CODE Handset

This is useful in areas where simplicity is more important than full functionality or where restricted access to Systemline is required - perhaps a child's room for example. It is also used to teach any Learning Handset.



## KEY OPERATING POINTS

All zones (rooms) operate completely independently both in terms of source selection and volume levels.

This means that it is possible to listen to four different sources in four different rooms at four different volume levels - SIMULTANEOUSLY!

When the Engaged led appears, it does not 'lock out' the user, it is merely a 'polite notice' of what's happening elsewhere.

When a Zone is switched to STBY the infra red relay is inhibited.

## SYSTEMLINE EXPANSION

For further information on how Systemline can be expanded or customised please ask for a list of approved Systemline Centres, as only these are authorised to undertake customisation work.

## CENTRAL CONTROLLER TECHNICAL SPECIFICATION

### Description

4 input multi source selection with 4 zone outputs.' Each zone incorporates a built-in 25 watt per channel high quality power amplifier In addition, a pre-amp output is provided for each of the four zones. An engaged system is built-in, as is a flood infra-red repeater system. Diagnostic status information is provided on the front panel together with an overall on/off switch.

### SOURCE INPUTS

INPUT 1 : 2 pairs of R.C.A. phono sockets so that any source maybe "looped through" the Central Controller and back to the main system amplifier.

INPUT 2 : Ditto Input 1

INPUT 3 : Ditto Input 1

INPUT 4 : Ditto Input 1

### REAR PANEL CONNECTIONS

Zone A Data : 6 way miniature wire protected screw terminal block

Speakers : 4 x 4 mm (banana) sockets Pre-Amp Sockets Pair of R.C.A. phono sockets

Zone B : Ditto Zone A COMMON DATA OUT/IN PROVISION A link is fitted to a 4 way screw

Zone C : Ditto Zone A terminal block This link is removed if an Interpreter is used. This connection

Zone D : Ditto Zone A may also be used to connect an external Transmitter if required

Mains Socket : I.E.C. style mains socket

### FRONT PANEL CONTROLS & INDICATORS

Mains switch : Push button switch Power On 5mm LED-YELLOW

Common Flash Transmit : Single 5mm LED Zone B : Ditto

Zone A Zone In use : 5mm LED-RED Indicator Zone C : Ditto

Data Recognition : 5mm LED-GREEN Zone D : Ditto

Data Communication System uses I2c bus from Central Controller to Display/Eye, therefore providing the potential of conveying much greater information to a future more comprehensive display.

## CENTRAL CONTROLLER TECHNICAL SPECIFICATION

Power Consumption (max) - 550 Watts  
Pre-Amplifier SECTION 8 Channels  
Frequency Response - 20Hz- 20KHz +/-0.2dB  
Signal to Noise' Ratio->105dB Unwtd ref 500mV  
Total Harmonic Distortion + Noise @ 1 kHz - <0.01  
Total Harmonic: Distortion + Noise 20Hz 20KHz <0.03%  
Input Overload @ 8V pk-pk  
Input Sensitivity 500mV Into 68K for 23W into 4 Ohms  
Output Level (Max) = Input level -0.2dB @100 Ohms  
Volume Control Range - 75dB in 1.25dB steps  
Tracking Error (Max) - 2dB

### General

Right/Left Channel Separation >70dB  
Inter Source Separation >70dB  
Input & Output Logic level 0-5V  
Maximum allowable Output Current terminal 1 and 3 of Data Connector -500mA @ 11.5 volts D.C  
Size (mm) 430 (w) x 360 (d) x 90 (h)  
Weight 13.25 Kg (Inc. carton)

Power Amplifier Section: 8 Channels

Frequency Response - 20Hz-20kHz +/-0.7dB  
Signal to Noise Ratio ->90dB unwtd  
Power Output @ 1 KHz  
15.5 Watts' into 8 Ohms @ 0.06% THD  
- 17 Watts into 8 Ohms @ 5% THD  
-23 Watts into 4 Ohms @ 0.06%-THD  
- 25 Watts into 4 Ohms @ 5% THD

Total Harmonic Distortion + Noise 20Hz-20KHz @  
500mV Input <0.06%

Total Harmonic Distortion + Noise 1 kHz @  
500mV Input <0.01%

We operate a policy of continual improvement and reserve the right to improve designs and specifications without prior notice















## CENTRAL CONTROLLER FAULT FINDING TIPS



There are no adjustments or complicated set-up procedures required to use the Central Controller.

If the System fails to operate correctly please use the following guide to locate the likely fault.

The majority of problems are due to incorrect wiring. It is important that you double check wiring even if you are sure that it is correct!

Before Starting these checks ENSURE that the source components are plugged into the Central Controller, and in their PLAY mode. Always check that each Hi-Fi Component operates directly with its OWN Handset before carrying out any checks of the Infra Red Relay.

- 1) Central Controller fails to Power Up when switched ON. Check...
- 2) Central Controller Powers Up but Display/Eye does not show Standby symbol or Glows Dimly. Check...
- 3) Display/Eye does not respond to Handset and there is no sound. Check... 
- 4) Display/Eye does not change symbols but audio can be heard. Check... 
- 5) Display/Eye changes inputs but there is no Audio or the Audio Plays in a different Zone. Check... 
- 6) You can select different sources but you cannot control the Audio Equipment. Check...
- 7) Audio cuts out after a period of Time. Check...
- 8) The Display/Eye Flash receive LED flashes continuously or intermittently when the handset is not being used. Check...
- 9) Infra Red Relay Operation is unreliable or intermittent. Check... 
- 10) More than one Zone operates simultaneously. Check...

(See Fault Finding Tips  To  overleaf)



## CENTRAL CONTROLLER FAULT FINDING TIPS

**A** Check that the power cord is connected. Check that the Mains Switch at the Mains Socket is 'ON'. Check that the IEC Mains Plug is pushed 'Home' into the Central Controller Mains Socket. Remove the Power Cord and check the mains fuse.

Re-Check that the wiring to the Display/Eye is secure and in the correct order. Check that there are no short circuits at the Terminal Blocks. Ensure that the cable has not been damaged. If cable damage is suspected the following check should be made:

**B** Remove the Display/Eye and connect it via a short length of cable to the Zone Connector at the Central Controller. Disconnect the suspect cable from the Central Controller FIRST. Keeping the Display/Eye out of range of the Flood IR Transmitter, power up the Central Controller and recheck.

**C** Check operation of Handset. If possible use Fixed Code handset for testing. Ensure that batteries are fitted and in good order. Check that Flash Receive LED glows on Display/Eye when a handset button is depressed. Check that the Green Code recognition LEDs glow on Central Controller when the Fixed code handset is used? If not carry out check ..B.

**D** Check that the correct Display/Eye has been installed. To check; power up the Central Controller and Turn the faulty zone ON. Inspect the Central Controller to determine which Zone is ACTIVE. Turn the Central Controller OFF and check that the Display/EYE has the Same Designation as the ACTIVE Zone. If not locate the Correct Display/Eye.

**E** If the Audio Plays in a different Zone the Speaker cables need to be located and reconnected to the correct Zone. If there is no Audio; ensure that the sources are playing and that the correct cables have been connected to the Central Controller Inputs. Switch the Zone OFF and then ON to reset the Volume.

**F** Check that the RED LED flashes in the FLOOD IR Window when an equipment code is transmitted. If not ensure that the factory fitted Link is in place between terminals 2&3 of the EXT-TX connector on the Central Controller. Check that the original equipment handset operates the equipment directly.

**G** Check that there are no short circuits between the Positive and Negative speaker cables. Ensure that the TOTAL speaker load is no lower than 4 Ohms. If the unit is used at an excessively high level for an extended period of time an internal Thermal Protection circuit will shut the amplifier down. Allow the unit to cool in order to reset.

**H** Turn OFF all lighting. If LED extinguishes turn lighting ON and shield the Top of the Display /EYE from the light source. If the the Flash Receive LED extinguishes the Display/Eye needs to be relocated in a more suitable position or the light source shielded. If the Flash Receive LED does not extinguish check that the Bare Drain wire is connected at Both Ends of the data cable and that the metal back box is earthed via a connection to terminal 1 of the Display/Eye.

**I** If the unit is installed in a closed cabinet: Check that there is an adequate gap between the door and Flood IR window to allow Infra Red dispersion. If space is limited try placing some white card on the inside of the cabinet door. If the equipment is in a very tall stack an additional transmitter may be required. Recheck the operation of the handset. Learning handsets can be prone to erratic operation. If you are in any doubt try the original handset provided with the audio equipment.

**J** Check that none of the Display/Eyes can receive simultaneously the same Infra Red beam from a single handset. Infra Red 'Bounces' and can reach around corners particularly where there are bright reflective surfaces. Ensure that the Output from the FLOOD INFRA RED cannot reach any of the Display/Eyes. If you suspect a problem remove the Link between terminals 2&3 of the EXT-TX connector at the back of the Central Controller. This will inhibit the IR Link and allow you to check that all zones are operating independently.

**WARNING: BEFORE DISCONNECTING ANY WIRING, PLEASE ENSURE THAT THE CENTRAL CONTROLLER IS SWITCHED OFF.**

### NOTICE TO THE INSTALLER

PLEASE ENSURE THAT THESE TESTS HAVE BEEN CARRIED OUT PRIOR TO CONTACTING YOUR SUPPLIER



Ridgeway House, Ridgeway Close, Lightwater, Surrey GU18 5XU England  
Telephone: (0276) 45 1 166, Facsimile: (0276) 452211