RC1406901 (Falcon & Skyhawk) Universal RF Remote

## **Compliance Information**

## **FCC Compliance Information**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- · Re-orient or relocate the receiving antenna.
- · Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The use of shielded cables for connection of the monitor to the graphics card is required to ensure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## **Industry Canada Compliance Statement**

ICES-003 This Class B digital apparatus complies with Canadian ICES-003.

RSS 210, Low Power Licence-Exempt Radiocommunications Devices (All Frequency Bands)

Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada.

RSS 210, Dispositifs de radiocommunications de faible puissance, exempts de licence (pour toutes les bandes de fréquences)

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# 1. Introduction

# 1.1 Purpose of this document

The purpose of this document is to identify the requirement of RF Remote Control RC1406901. This document describes the software requirements of this remote.

## 1.2 Edition history

000000000000000000000000000000000000000					Modification(s)	
1	1.0	Approved	12/5/2003	PCNL	Initial version as in URS	i

## 1.3 Definitions, acronyms and abbreviations

μP

Microprocessor

OTP

One Time Programmable

ROM

Read Only Memory

**EEPROM** 

Electrical Erasable Programmable ROM

IR

Infra Red

RF

Radio Frequency

LED

Light Emitting Diode

RCS

Remote Control Systems

STB

Set-top box

TV

Television

**QEM** 

Original Equipment Manufacturer

#### 1.4 Reference documents

[RCMM RF/IR EXT]

Title

IR-Protocol for Wireless Multimedia Remote

Control

Document ID

SD-0000-JWO20

Author

Johan Wouters

Publisher

Philips RCS

Version

2.2

Date

10/07/2000

[URS]

Title

Key 3b

Document ID

Key\_3b.xls Koji Harada

Author Publisher

Onkyo

Version

Date

26-04-2003

[Sheet\_190]

Title

**Electrical Specification** 

Document ID

Author

**HS Tan** 

Publisher

RCS

Version

Date

[PB]	Title	Project Brief	
	Document ID		
	Author	Erik	
	Publisher	RCS	
	Version		
	Date		

# 2. General product description

## 2.1 Product perspective

The RC1406901 is an Universal RF remote control for AV Receiver. The remote control will sends command code via a 433MHz RF link usable in US, Canada, Australia and EU market. For proper operation, RC1406901 will need to pair with a RF extender which will translate RF command to IR signal and send the IR signal to an IR receiving of AV Receiver equipment.

RC1406901 contains a dedicated code for AMP, CD, Net-Tune and MD mode, universal code for DVD, SAT, TV, VCR and CABLE mode. The RF database cover US, Canada, Australia, Asia, Japan and EU market.

1 MODE button, 3 SELECTOR buttons and 1 MACRO button are all back-lighted by green LED. The jog switch is use for menu selection and confirmation of user preference that is display in the LCD panel.

	RC1406901 (Falcon & Skyhawk) Universal RI	- Remote
		•
Model:		
Falcon Skyhawk		
(These picture are for indication only, actual ID pi	ease refer to graphic passport)	

# 3. Functional requirements

When the remote is inserted batteries for the the very first time or after a RESET key combination is activated, the RC1406901 will start-up in AMP mode.

Default universal ID for TV, VCR and DVD is:

Mode	Default Device	Universal ID code
AMP	Dedicated	
CD	Dedicated	_
DVD 1 (Preset code)	NEC DVD	1234
NET-TUNE	Dedicated	
TV	No code	0000
VCR	No code	0000
CDR	Dedicated	
CABLE	No code	0000
MD	Dedicated	
SATELLITE	No code	0000

Note: To get to DVD2 user need to set universal ID code of DVD to 1235

## 3.1 Function Overview

The features of RCXXXX can be summarised as follows:

5 back-lighted bottons (1 mode, 3 Selector & 1 Macro)

2 Indicating LED (Red > transmit IR, Green > transmit RF)

Learnable

Data Backup to and from computer

Normal operation

Mode and Selector Setting

Mode change

Selector change

Customise Operation

Preprogram

Learning

Learn Macro

Mode Edit

Setup

IR/RF selection

LCD Display

Macro Keys

Stuck key Timeout

Simultaneous Keypress

Factory Test mode

Universal for IR USA & Canada, EU, Australia, New Zealand, Asia and Japan for devices of DVD, SAT, TV, VCR, and CABLE Library

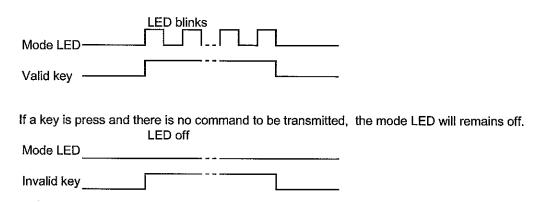
Universal for RF USA & Canada, EU, Australia and New Zealand for devices of DVD,SAT,TV, VCR, and CABLE Library

## 3.2 Indicator LED operation

Visible LEDs are used for user feedback for confirmation of key presses located at the top of the remote.

#### 3.2.1 RF or IR Sending Indication

When a key (other then mode keys) is press, and if this key triggers a command to be transmitted – the indicating LEDs located at the top of the remote will blinks for the duration of transmission. The blinking frequency of LED depending on the code sends by RC1406901. When transmitting RF signal Green LED will blink. When transmitting IR signal Red LED will blinks.



#### 3.2.2 Mode, Selector (Input, Zone2) and Macro key

Each of the keys have a green LED under it. When any of the key is press and released the LED under the pressed key is turn ON. While the LED under the key is ON , if the key is press again the LED under that key will turn off. The LED under the key will also turn off when time-out occur. Under normal operation while both MODE LED and INPUT LED is off, if Jog dial is scroll both the MODE and INPUT LED will turn on. Input is pressed while both Mode and Input LED are ON, Input LED is still on and Mode LED turns OFF.

#### 3.2.3 Time-Out

Light, Mode and Selector key ("Input", "Zone2") have 7 second time out. When 7 second duration has elapsed after the Mode or Selector key is release, the remote will exit the current state. For the Light key, once it is press the backlight will turn on, after the light key is release if there is no key press or scroll for 7 second the backlight will turn off.

Time out for features in Customize mode is 30seconds.

#### 3.2.4 Unassigned Keys

The remote control shall ignore any unassigned key presses for a particular mode and not transmit IR unless otherwise noted.

## 3.3 Key Function

#### 3.3.1 MODE Key

When MODE key is pressed while MODE LED is off, MODE LED will turns on for 7 seconds.

When MODE key is pressed while MODE LED is on, MODE LED will turn off.

When MODE key is pressed continuously the MODE LED will turn on continuously until a 7 second time out occur upon MODE key release.

When MODE key is pressed while the LED under any one of the Key number 24,28,29,32 is on, the LED under the key number 24, 28, 29, 32 that is on will turn off, and MODE LED will turn on for 7 seconds.

When other than key number 24, 28, 29, 32 key is pressed while MODE LED is on, MODE LED continues to on for 7 seconds, and the pressed key is operated.

When Jog dial is scroll while the MODE LED is on, "MODE" can be changed, and the MODE LED will turn on for the entire process until jog is not being scroll for 7 second.

#### 3.3.2 LIGHT Key

When Light key is press while Backlight is on, Backlight will turn off.

When Light key is press while Backlight is off, Backlight will turn on.

When all other than the Light key is pressed or jog is scroll while Backlight is on, Backlight will continue to turn on until 7 seconds time out occur.

#### 3.3.3 INPUT Key

When INPUT key is pressed while INPUT LED is off, INPUT LED will turns on for 7 seconds.

When INPUT key is pressed while INPUT LED is on, INPUT LED will turn off.

When INPUT key is pressed continuously the INPUT LED will turn on continuously until a 7 second time out occur upon INPUT key release.

When INPUT key is pressed while the LED under any one of the Key number 24,28,29,32 is on, the LED under the key number 24, 28, 29, 32 that is on will turn off, and INPUT LED will turn on for 7 seconds.

When other than key number 24, 28, 29, 32 key is pressed while INPUT LED is on, INPUT LED continues to on for 7 seconds, and the pressed key is operated.

When Jog dial is scroll while the INPUT LED is on, "INPUT" selector can be changed, and the INPUT LED will turn on for the entire process until jog is not being scroll for 7 second.

#### 3.3.4 **ZONE 2 Key**

When ZONE 2 key is pressed while ZONE 2 LED is off, ZONE 2 LED will turns on for 7 seconds.

When ZONE 2 key is pressed while ZONE 2 LED is on, ZONE 2 LED will turn off.

When ZONE 2 key is pressed continuously the ZONE 2 LED will turn on continuously until a 7 second time out occur upon ZONE 2 key release.

When ZONE 2 key is pressed while the LED under any one of the Key number 24,28,29,32 is on, the LED under the key number 24, 28, 29, 32 that is on will turn off, and ZONE 2 LED will turn on for 7 seconds.

When other than key number 24, 28, 29, 32 key is pressed while ZONE 2 LED is on, ZONE 2 LED continues to on for 7 seconds, and the pressed key is operated.

When Jog dial is scroll while the INPUT LED is on, "INPUT" selector can be changed, and the INPUT LED will turn on for the entire process until jog is not being scroll for 7 second.

When the other valid keys are pressed while ZONE 2 LED is on, the command of ZONE 2 is added ahead of the command of the key that is being pressed, and then they are transmitted.

When the following code is 1a, it is set to 1c, and when the following code is 1b, it is set to 1d. (Refer to 'Code table' of the device.)

No code is transmitted when ZONE 2 key is press or if no key is press after pressing the ZONE 2 key.

#### 3.3.5 Punch through TV key (key number 3, 4, 5, 6, 7, 8)

These six buttons can transmit the unique command regardless of the current Mode. These buttons are dealt with as a clone of the button of the TV (not TV2, TV3, ..., TVn) Mode.

The relation of a clone is as follows.

Key number 3 will punch through to key number 1 in TV mode.

Key number 4 will punch through to key number 37 in TV mode.

Key number 5 will punch through to key number 33 in TV mode.

Key number 6 will punch through to key number 34 in TV mode.

Key number 7 will punch through to key number 35 in TV mode.

Key number 8 will punch through to key number 36 in TV mode.

If TV mode is deleted by the Mode edit menu, no command is transmitted when these keys are press and no command is to be learn into these keys.

The Mode of the remote will not change when these keys are pressed.

#### 3.3.6 Macro Key

When Macro Key is pressed while Macro LED is off, MAcro LED will turns on.

While Macro LED is on the stored Macro is selected by scrolling Jog dial, and the selected Macro is transmitted by pressing the Jog dial.

A maximum of eight Macro can be stored into the remote controller.

A maximum of eight commands can be stored into each Macro.

After a series of commands are sent, "Macro" LED turns off immediately.

When any key is pressed while a series of commands are sent, they are interrupted and the pressed key is operated.

Please refer to section 3.7.4 Macro Transmission for activating Macro transmission and refer to section 3.8.3 Macro Menu for detail programming sequence.

#### 3.3.7 Jog Switch

The Jog switch is for user to do selection on the item display in the LCD by scrolling upward or downward. Single code transmission is apply when Jog dial is scroll upward or downward, continuous transmission only apply when jog dial switch is being press continuously. If Jog is scroll one step at a time, that is each step is longer than 110ms or 220ms (depending on the type of protocol the remote is sending) then Input code will be transmitted as the jog is being scroll.

If more than one step change is detected within 110ms or 220ms(depending on the type of protocol the remote is sending) than no code is transmitted until the Jog stop scrolling.

## 3.4 IR Learn Mode

#### 3.4.1 Entering the Learn mode

Press and hold the CUSTOM button for 3 seconds or longer will go into the customize mode then use Jog dial to go into Learn menu (refer to section 3.8 for pictorial description)When in the Learn menu, first use the Jog dial to select the desired device mode then select the key that need to learn. Please refer to section 3.8.2 Learning Menu for detail learning sequence. ALL have Learn mode. However if batteries voltage is below normal level as defined in [Sheet\_190], entering Learn mode is not possible.

#### 3.4.2 Exiting the Learn Mode

At any moment in the Learn mode, to exit the learn mode either by pressing the Custom button or when 30second time out occur, user will exit the Learn mode.

## 3.5 Backlight

The Backlight is activated by a key at the side of the remote. If this key is pressed while backlight is OFF, then backlight will turn ON for 7 second upon key release. If this key is press while Backlight is ON, then Backlight will turn OFF. If all other than the backlight key is pressed or scrolled while Backlight is ON, Backlight continues to turn on for 7 seconds longer after all key release or jog dial stop activated.

## 3.6 LCD Display

## 3.6.1 Normal Display

						Input, Zone2 and Zone3 select
Lower	Α	М	Р		:	Mode display

## 3.6.1.1 Mode Display

Ł	Α	M	Ρ			:	AMP
L	C	D				:	CD
Ĺ	D	٧	D			:	DVD
L	N	E	Т	•	Т	:	Net-Tune
L	Τ	٧				:	TV
L	V	С	R			:	VCR
Ł	C	В	L			:	Cable
L	S	Α	Т			:	Satellite
L	M	О				:	MD
Ł	C	D	R			:	CDR
						•	
F	ח	V	ח	2		١.	plural DVI

3.6.1.2 Selector Display >> INPUT, Zone2

U	D	٧	D			:	DVD
Ų	٧	1				:	Video 1
U	٧	2				:	Video 2
U	٧	3				:	Video 3
U	٧	4				:	Video 4
U	٧	5				:	Video 5
U	Т	С	Z	Е	R	:	Tuner
U	Р	Н	0	N	0	:	Phono
Ų	Т	Α	Ъ	Е		:	Tape
U	O	ם				:	CD
U	М	S	R	٧		:	Music Server
U	Ι	R	D		·	:	Internet Radio
_							

## 3.6.1.3 Macro Display

U	Μ	Α	С	R	0	:	(Macro)
L	1					:	Macro 1
L	2					:	Macro 2
L	3					:	Macro 3
L	4					:	Macro 4
L	5					:	Macro 5
L	6					:	Macro 6
L	7					:	Macro 7
L	8					:	Macro 8

L N O N E : Macro 8 : All Macros are empty

LAOFF: named Macro

## 3.6.2 Custom Display

See section '3.8. Custom operation and display (Customizing mode)

## 3.6.3 Battery Low

## 3.7 Normal Operation

#### d:Scroll downward

direction of digit:

0, 1, 2, ..., 9, 0

direction of character: A, B, ..., Y, Z, 0, 1, 2, ..., 8, 9, +, -, =, <, >, \_, -, /, "Reverse Slant", \*,

"Space", A

#### u:Scroll upward

direction of digit:

0, 9, 8, ..., 1, 0

direction of character:

A, "Space", \*, "Reverse Slant", /, -, \_, >, <, =, -, +, 9, 8, ..., 2, 1, 0, Z, Y,

p:

Press jog dial Go to AMP Mode and transmit the commands of the Input

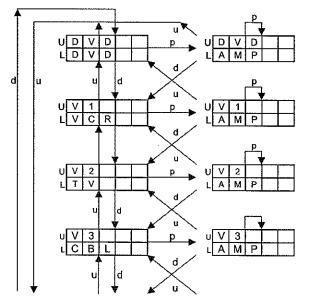
or Zone 2 selector Mode and Input Selector changing

#### 3.7.1 Mode and Input Selector Changing

While both the "Mode" LED and the "Input" LED are OFF, if the jog dial is scroll upward or downward then both the Mode and Input selector will changed simultaneously and the LED under this 2 keys will turn ON immediately.

While both the "Mode" LED and the "Input" LED are ON, if the jog dial is scroll upward or downward the Mode and Input selector will also changed simultaneously, and the LED under this 2 keys will continue to ON. The LED will turn OFF when 7 second time out occur.





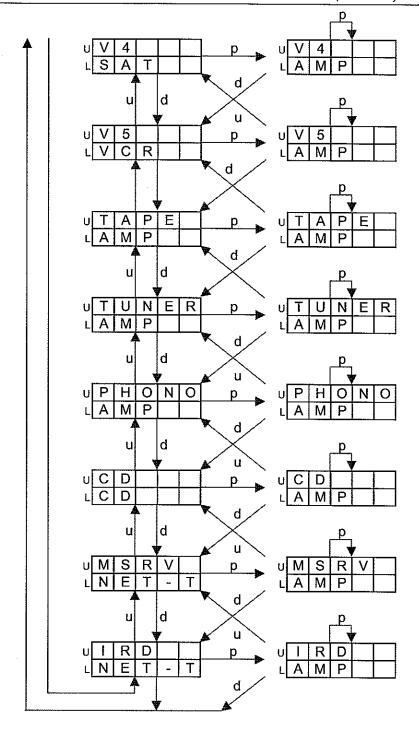
#### notes:

This is the initial display. (after the batteries attached)

These are the initial assignment for "Input" and "Mode".

Change the Input Selector in order, and transmit IR/RF commands.

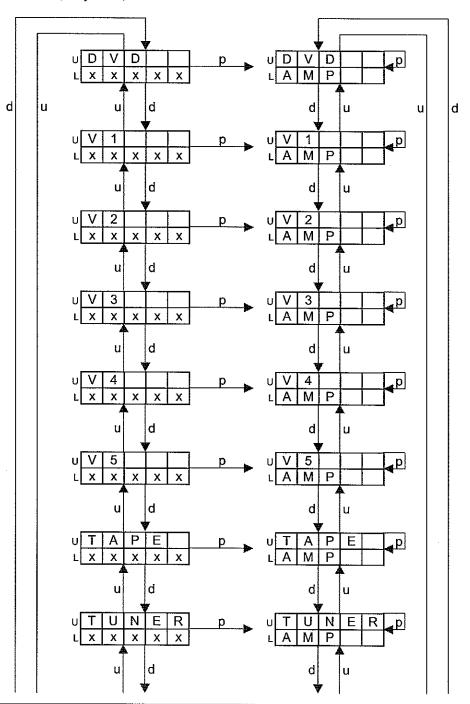
Change to the Mode which is associated with Input Selector.

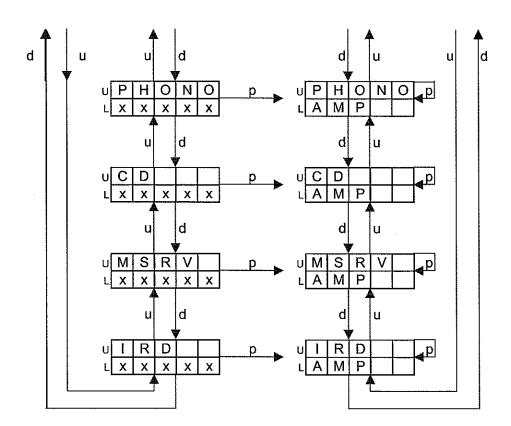


#### 3.7.2 Input and Zone2 Selector

While only "Input" or "Zone 2" LED is on by pressing "Input" or "Zone 2" button, only Input or Zone 2 Selector is changed when jog dial is activated, and the selector LED is still on.

Falcon, Skyhawk;





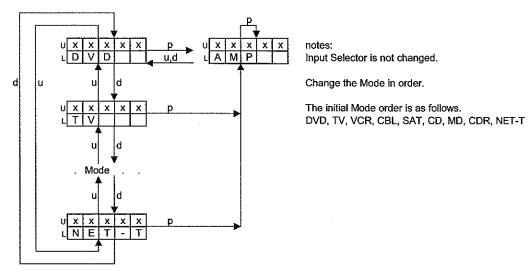
#### notes:

In case of Zone 2 selector is press, the upper display shows Input selector after their LED turns off. The Input order is as follows.

DVD, V1, V2, V3, V4, V5, TAPE, TUNER, PHONO, CD, MSRV, IRD

#### 3.7.3 Mode Change

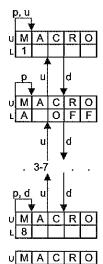
While only "Mode" LED is on by pressing "Mode" button, only Mode is changed when jog dial is activated, and Mode LED is still on.



#### 3.7.4 Macro transmitting

While the "Macro" LED is on by pressing "Macro" button, the stored Macro is selected by scrolling Jog dial.

While the "Macro" LED is on, the selected Macro is transmitted by pressing Jog dial.



LNONE

#### notes:

While a series of commands are transmitted by pressing each "MACRO" button, the transmission is interrupted if a certain button is pressed, then the pressed button operates.

If a series of commands transmission is completed, MACRO LED turns off, and it returns to Normal display.

Empty Macro is jumped and not displayed.

If all Macros are empty, show as follows for two seconds, then go back to Normal display.

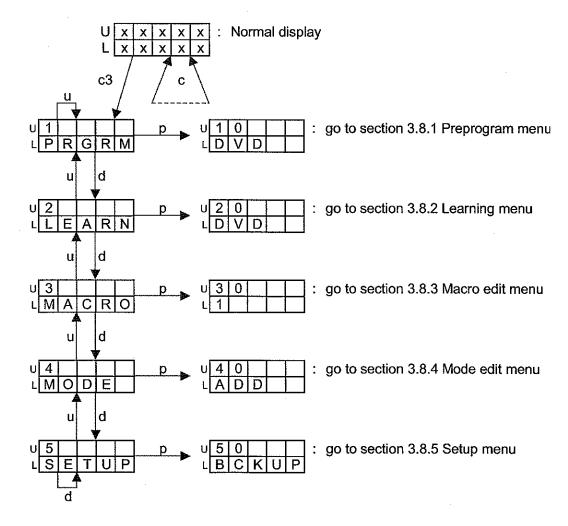
## 3.8 Custom operation and display (Customizing mode)

Pressing "CUSTOM" button for three seconds, the remote goes into Customizing mode.

Pressing "CUSTOM" button or no operation for 30 seconds while Customizing mode, the remote goes back to Normal display mode.

c:Press "Custom" button

c3:Press "Custom" button for three seconds



#### 3.8.1 Preprogram menu

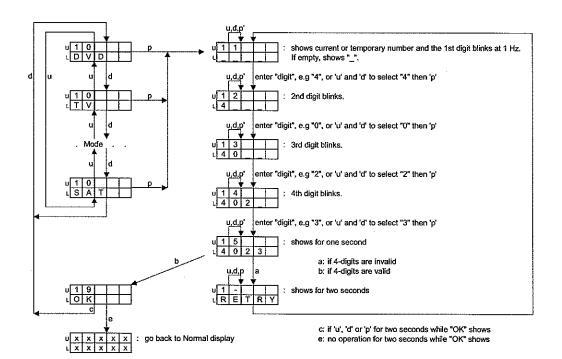
Preprogrammed code set can be stored to DVD, TV, VCR, CBL, SAT Mode.

#### Entering Preprogram Mode

- 1) Press Custom button for 3 sec to get into Customize Mode
- 2) Scroll Jog dial to select Preprogram Menu
- 3) Press Jog Dial to go into Preprogram Menu

#### Exit of Preprogram Mode:

- 1) Pressing the Custom button.
- 2) Time Out of 30 second
- 3) No Operation for 2 sec while "OK" show



#### 3.8.2 Learning menu

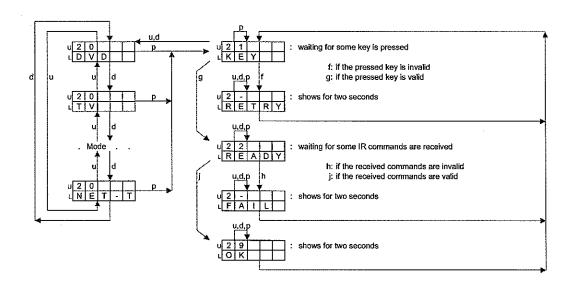
IR code of the other remote can be stored to all other than "LIGHT", "CUSTOM", "MACRO", "MODE", "INPUT" or "ZONE 2", and Jog button in every Mode.

#### Entering Learn Mode

- 1) Press Custom button for 3 sec to get into Customize Mode
- 2) Scroll Jog dial to select Learn Menu
- 3) Press Jog Dial to go into Learn Menu

#### Exit of Learning Mode:

- 1) Pressing the Custom button.
- 2) Time Out of 30second



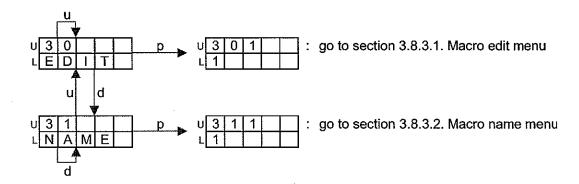
#### 3.8.3 Macro menu

#### **Entering Macro Mode**

- 1) Press Custom button for 3 sec to get into Customize Mode
- 2) Scroll Jog dial to select Macro Menu
- 3) Press Jog Dial to go into Macro Menu

#### Exit of Macro Menu:

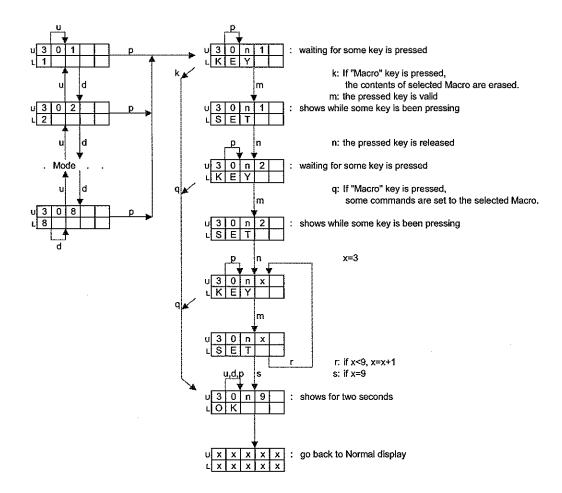
- 1) Pressing the Custom button.
- 2) Time Out of 30second
- 3) After successful Micro command programming
- 4) When Macro key is press during Macro editing



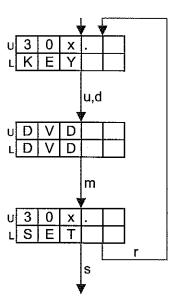
#### 3.8.3.1 Macro Edit Menu

A maximum of eight commands can be stored into each Macro.

A maximum of eight Macro can be stored into the remote controller.

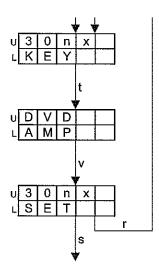


in case of Macro menu, "Mode", "Input" and "Zone2" buttons are operated like as Normal mode.



In case of Macro menu, how to store the "Input" and "Zone2" command is as follows.

t: scrolling the Jog dial,

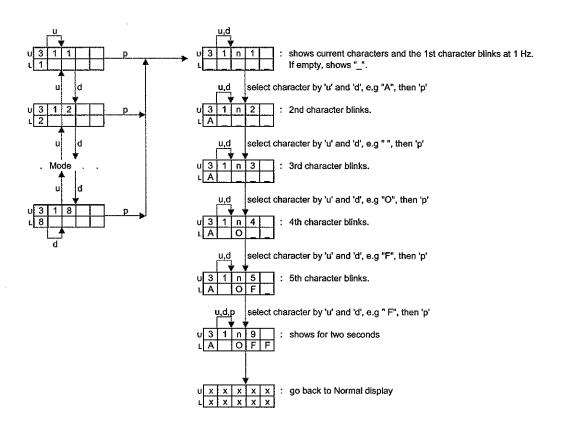


or pressing "Input" or "Zone2" button,
then scrolling the Jog dial,
to change the "Input" or "Zone2" selector.
notes;
"Input" or "Zone2" selector command
is not transmitted by scrolling Jog dial in this Macro menu.

v: Pressing the Jog dial, then "Input" or "Zone2" selector command is stored to the Macro. "Input" or "Zone2" selector command is transmitted by prssing Jog dial in this Macro menu.

#### 3.8.3.2 Macro Name Menu

The name of each Macro can be changed.



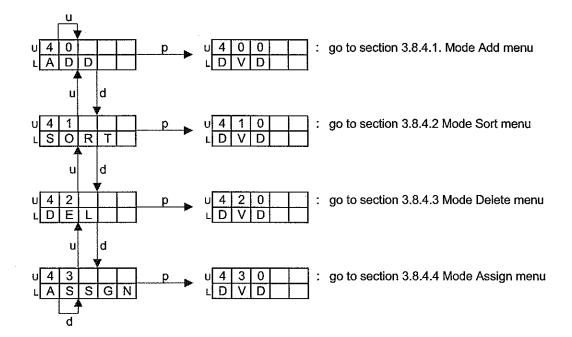
#### 3.8.4 Mode edit menu

## **Entering Mode Mode**

- 1) Press Custom button for 3 sec to get into Customize Mode
- 2) Scroll Jog dial to select Mode Menu
- 3) Press Jog Dial to go into Mode Menu

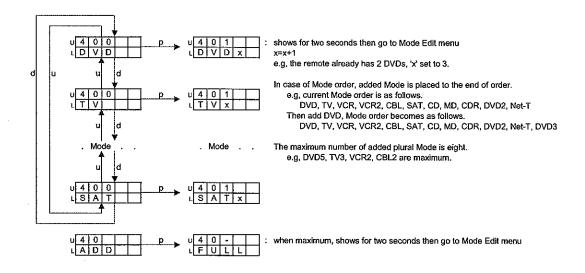
#### Exit of Mode Menu:

- 1) Pressing the Custom button.
- 2) Time Out of 30 second

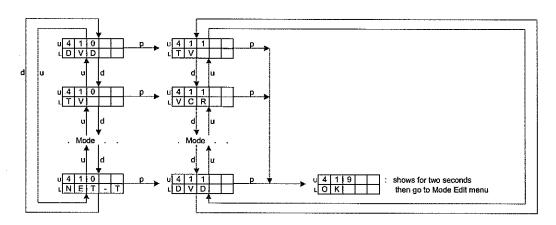


#### 3.8.4.1 Mode Add menu

There can be more than one "DVD", "TV", "VCR", "CBL" and "SAT" Mode in the remote.



#### 3.8.4.2 Mode Sort menu



All other than "AMP" Mode can be sorted.

In case of sorting, the first selected Mode is placed in front of second selected Mode. e.g, current Mode order is as follows.

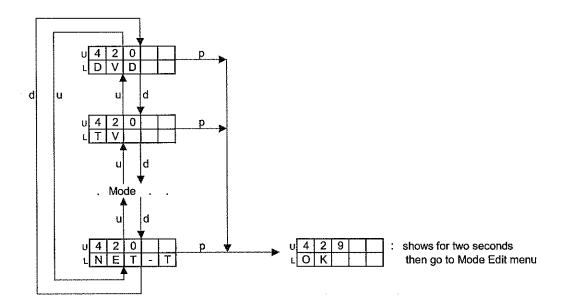
DVD, TV, VCR, VCR2, CBL, SAT, CD, MD, CDR, DVD2, Net-T

Select "VCR2" first, then select MD second, Mode order becomes as follows.

DVD, TV, VCR, CBL, SAT, CD, VCR2, MD, CDR, DVD2, Net-T

## 3.8.4.3 Mode Delete Menu

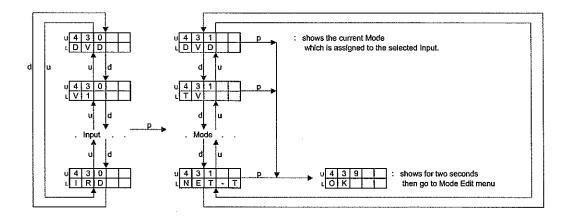
All other than "AMP" Mode can be deleted.



## 3.8.4.4 Mode Assigned Menu

The Mode can be assigned and changed to each input.

Therefore, if Input is changed, Mode can also be changed to the favorite Mode simultaneously.



#### 3.8.5 Setup Menu

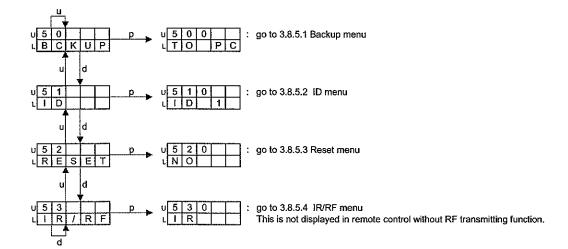
The remote setup informations can be stored to PC and restore by PC.

## **Entering Setup Mode**

- 1) Press Custom button for 3 sec to get into Customize Mode
- 2) Scroll Jog dial to select Setup Menu
- 3) Press Jog Dial to go into Setup Menu

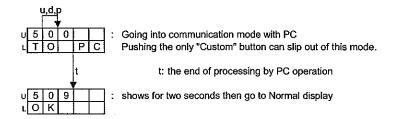
#### Exit of Setup Menu:

- 3) Pressing the Custom button.
- 4) Time Out of 30 second



## 3.8.5.1 Backup Menu

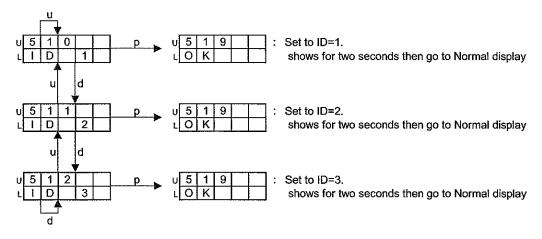
The all of remote data and informations can be stored to PC and restore by PC.



U 5 0 - Slipping out of this mode by pressing "Custom" button, transmission error, or something shows for two seconds then go to Normal display					
L F A I L shows for two seconds then go to Normal display	υ 5	0 -	5 0		: Slipping out of this mode by pressing "Custom" button, transmission error, or something wrong
• • • • • • • • • • • • • • • • • • • •	ιF	AIL	FA	L	shows for two seconds then go to Normal display

#### 3.8.5.2 ID Menu

The ID of ONKYO preset code is changed.



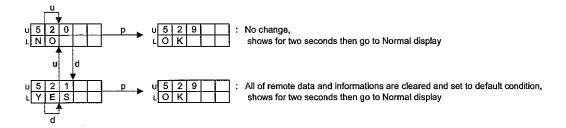
The current value is displayed first.

ID and Custom code table

ID=1	ID=2	ID=3
D202	D209	D20A
D26C	D204	D207
D2AC	D205	D208
D26D	D203	D206

## 3.8.5.3 Reset Menu

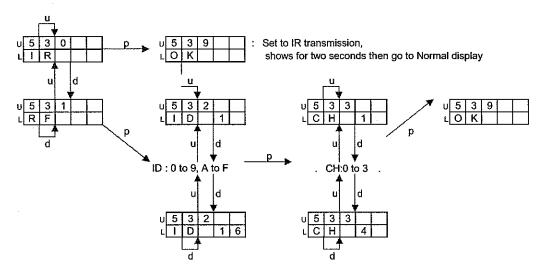
All of the remote data and informations can be cleared and set to default condition.



#### 3.8.5.4 IR/RF Menu

Transmission can either be IR or RF.

Transmitting LED lights in red if IR is selected, transmitting LED lights in green if Rf is selected.



The current value is displayed first.

## 3.9 RF Home ID and Device ID Setup

The communication link between RC1406901 and Dongle is uniquely matched by a set of CH ID and Device ID – selectable by end user. The purpose of the Device ID is to prevent confusion if user has installed with more then 1 set of receiver. CH ID will avoid interference between neighbours with similar AV Receiver system installed.

CH ID consists of digit: 0, 1, 2 & 3
Device ID consists of digit: 0 to 9, A to F

Please refer to Section 3.9.5 Setup Menu to enter IR/RF menu and refer to section 3.9.5.4 IR/RF Menu to select the CH and Device ID.

### 3.10 Battery Low Indication

Upon power up, if the RAM has not been corrupted, the remote control will maintain the user settings (programmed lds).

Upon power up, if RAM has been corrupted, the remote will be reset to its original default states. That is AMP will be the default mode, and each mode will have its initial default ID. Please refer to section 3 on the default table for all devices.

#### 3.11 Power down mode

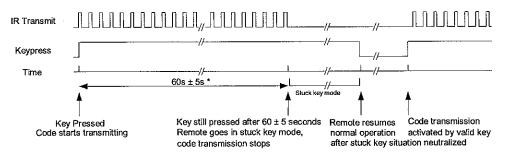
In this mode, a minimum of current is consumed to maximise battery lifetime. This mode is entered when no actions need to be executed. When the user presses a button on the keypad, normal operating mode is entered. No memory setting is lost.

#### 3.12 Stuck Key mode

Stuck Key means that a button has been pressed for a very long time in normal operating mode. To preserve battery power, the remote will shut down about 60 seconds after the last key transition to consume minimal power. After all keys are released, the remote resumes normal operation.

Following graphic shows when this power down mode is entered:

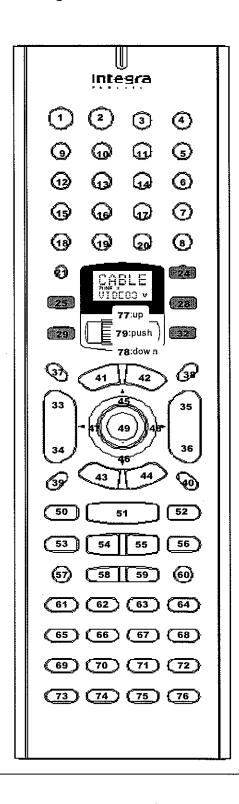
#### STUCK KEY TIMEOUT



<sup>\*</sup> Stuck Key Timeout is typical 60 seconds, actual timing depends on the protocol transmitted

Typical stuck key time is between 55 and 65 seconds, except for IR protocols with exceptional long or short repeat timings.

## 3.13 Key Numbering



## 3.14 Function Table Overview

Code table Falcon and Skyhawk

Key	Function	- Carriera	Cumbal	Folcop	Clauboude
No.	FullClion		Symbol	Falcon	Skyhawk
#		D			
#		Prepro	 		
aida	LIGHT	Prepro n	umber	<u></u>	ļ <u>.</u> .
		DI O	•	yes	yes
1	POWER ON	Plower On		yes	yes
2	STANDBY	Rever Off	Ф	yes	yes
3	TV POWER	7 Folwer	<u>Φ/Ι</u>	yes	yes
4	TV INPUT	TV TV/Video	INPUT	yes	yes
5	TV CH +	TV Ch +	+	yes	yes
6	TV CH -	TV Ch -	-	yes	yes
7	TV VOL +	TV Vol +	+	yes	yes
8	TV VOL -	TV Vol -		yes	yes
9	1 @,-'/	1	1 @,-'/	yes	yes
10	2 ABC	2	2 ABC	yes	yes
11	3 DEF	3	3 DEF	yes	yes
12	4 GHI	4	4 GHI	yes	yes
13	5 JKL	5	5 JKL	yes	yes
14	6 MNO	6	6 MNO	yes	yes
15	7 PQRS	7	7 PQRS	yes	yes
16	8 TUV	8	8 TUV	yes	yes
17	9 WXYZ	9	9 WXYZ	yes	yes
18	+10	+10	+10	yes	yes
	/		/	yes	yes
19	0	0	0_	yes	yes
20	ENTER	Enter	ENT	yes	yes
	DIRECT TUNING		D TUN	yes	yes
21	CUSTOM		CUSTOM	yes	yes
22				no key	no key
23		1 10 10 10 10 10 10 10 10 10 10 10 10 10		no key	no key
24	ZONE 3		ZONE 3	по	no
25	MACRO		MACRO	yes	yes
26				no key	no key
27				no key	no key
28	ZONE 2		ZONE 2	yes	yes
29	MODE		MODE	yes	yes
30				no key	no key
31				no key	no key
32	INDUT		INPUT	yes	yes
JZ	INPUT	1			
33	CH +	Ch +	CH+	yes	yes
	*** *******	:	CH+	yes yes	yes ves
	CH+	Ch + Step up Ch -	CH + DISC +	yes	yes
33	CH + DISC + CH -	Step up Ch -	CH + DISC + CH -	yes yes	yes yes
33 34	CH + DISC + CH - DISC -	Step up Ch - Step down	CH + DISC + CH - DISC -	yes yes yes	yes yes yes
33 34 35	CH + DISC + CH - DISC - VOL +	Step up Ch - Step down Vol +	CH + DISC + CH - DISC - VOL A	yes yes yes yes	yes yes yes yes
33 34	CH + DISC + CH - DISC -	Step up Ch - Step down	CH + DISC + CH - DISC -	yes yes yes	yes yes yes

Key	Function		Symbol	Falcon	Skyhawk
No.			-,		
#		Prepro			
		Prepro nu			
38	SLEEP	Sleep	SLEEP	yes	yes
39	DISPLAY	Display	DISPLAY	yes	yes
	PREVIOUS	Previous Channel	PREVIOUS	yes	yes
40	MUTING	Mute	MUTING	yes	yes
41	TOP MENU	Title	TOP MENU	yes	yes
40	ASPECT	Aspect, Wide	TV ASPECT	yes	yes
42	AUDIO ADJUST	(Dian) Manus	AUDIO ADJUST MENU	yes	yes
40	MENU	(Disc) Menu		yes	yes
43 44	RETURN	Exit Setup Menu, Guide	RETURN SETUP	yes	yes
44	SETUP CURSOR	Up	Λ	yes	yes
45	CURSOR	Down	V	yes	yes
46	CURSOR	Left	V	yes	yes
48	CURSOR	Right		yes	yes
49	ENTER	Enter	ENTER	yes	yes
45	LINILIX	Ok	LIVIER	yes	yes
50	l<<	(VISS Index) Previous	144	yes	yes
51	PLAY	Play		yes	yes
52	PLAT  >>	(VISS Index) Next	<b>→</b>	yes yes	yes
53	<<	Fast Rewind	4		yes
54	PAUSE	144		yes	yes
34	REVERSE PLAY			yes	yes
55	STOP	Debp!		yes	yes
56	>>	Forward	<b>&gt;&gt;</b>	yes	yes yes
57	REC	cord		yes yes	yes
"	LAST PLAY	Last Play	Last Play	yes	yes
58	<	w Rewind	ZGSCI My	yes	yes
00	7	Backword	'-	yes	yes
59	>	Slow Forward		yes	yes
60	RANDOM	Shuffle (One)	RANDOM	yes	yes
61	SURROUND	<b>⊸</b> ■	SURR	yes	yes
•	AUDIO	Audio	AUDIO	yes	yes
62	THX		THX	yes	no
	ANGLE	Angle	ANGLE	yes	yes
63	ALL CH STEREO		ALL ST	yes	yes
	SUBTITLE	Language	SUBTITLE	yes	yes
64	STEREO		STEREO	yes	yes
	CLEAR	(Memo) Clear	CLEAR	yes	yes
65	PURE AUDIO		PURE A	yes	yes
	REPEAT	Repeat	REPEAT	yes	yes
66	DIRECT		DIRECT	yes	yes
	А-В	Repeat A-B	А-В	yes	yes
67	DSP -		< DSP	yes	yes
L	SEARCH	Scan	SEARCH	yes	yes
68	DSP +		DSP >	yes	yes
	MEMORY	Memery, Program	MEMORY	yes	yes
69	TEST		TEST	yes	yes
	PLAYLIST		PLAYLIST	yes	yes
70	CH SEL		CH SEL	yes	yes
L	ALBUM		ALBUM	yes	yes
71	LEVEL -		< LEVEL	yes	yes
	ARTIST		ARTIST	yes	yes
72	LEVEL +		LEVEL >	yes	yes
	GENRE		GENRE	yes	yes
74	EJECT	Eject	<b></b>	yes	yes
/ +		1. 1	ī	1 -	1 -
′*	OPEN / CLOSE			yes	yes

Key	Function		Symbol	Falcon	Skyhawk
No.					
#		Prepro			
		Prepro num	ber		
73	AUDIO SELECTOR		A SEL	yes	yes
	DELETE		DEL	yes	yes
75	LATE NIGHT		L NIGHT	yes	yes
	LANGUAGE		LANGUAGE	yes	yes
76	Re-EQ		Re-EQ	yes	yes
	LOCATION		LOCATION	yes	yes
77	Scrolling Jog upward			yes	yes
78	Scrolling Jog downwa	rd		yes	yes
79	Pressing Jog			yes	yes
	Input DVD		DVD	yes	yes
	Input VIDEO 1		V1	yes	yes
	Input VIDEO 2		V2	yes	yes
	Input VIDEO 3		V3	yes	yes
	Input VIDEO 4		V4	yes	yes
	Input VIDEO 5		V5	yes	yes
	Input VIDEO 6		V6	no	no
	Input VIDEO 7		V7	no	no
	Input CD		CD	yes	yes
	Input PHONO		PHONO	yes	yes
	Input TUNER		TUNER	yes	yes
	Input TAPE		TAPE	yes	yes
	Input TAPE 1		TAPE1	no	no
	Input TAPE 2		TAPE2	no	no
	Input MUSIC SERVE	₹	MSRV	yes	yes
	Input INTERNET RAD	DIO	IRD	yes	yes

Yes : key with function

No : Not implemented in this model

No key: No such key in this model

# 3.14.1 AMP and CD Code Table Code table Falcon and Skyhawk

Key	Function		Symbol		AMP			CD	
No.				1	set Cod			set Cod	
#		Prepro	ļ	Custom	Data	Туре			Туре
		Prepro ni	ımber					####	
side	LIGHT					******	eration		
1	POWER ON	Plower On		D26D		1a	D2AC	_	1a
2	STANDBY	RUwer Off	Ф	D26C			D26C		1a
3	TV POWER	じずdwer					#1 of TV N		
4	TV INPUT	TV TV/Video	INPUT		1.00 1.00 1.0	Annual Control	37 of TV I		
5	TV CH +	TV Ch +	+				33 of TV		
6	TV CH -	TV Ch -	-				34 of TV I		
7	TV VOL +	TV Vol +	+				35 of TV		Peter
8	TV VOL -	TV Vol -				me as #	36 of TV I	Vode	
9	1 @,-'/	1	1 @,-'/	D202	D5	1a	D26D	D5	- la
10	2 ABC	2	2 ABC	D202	D6	1a	D26D	D6	1a
11	3 DEF	3	3 DEF	D202	D7	1a	D26D	D7	1a
12	4 GHI	4	4 GHI	D202	D8	1a ::	D26D	D8	1a
13	5 JKL	5	5 JKL	D202	D9	1a	D26D	D9	1a
14	6 MNO	6	6 MNO	D202	DA	1a	D26D	DA	1a
15	7 PQRS	7	7 PQRS	D202	DB	1a	D26D	DB	1a
16	8 TUV	8	8 TUV	D202	D¢	1a	D26D	DC	1a
17	9 WXYZ	9	9 WXYZ	D202	DD	1a	D26D	DD	1a
18	+10	+10	+10				D26D	DF	- 1a
	/		/						
19	0	0	0_	D202	DE	1a	D26D	DE	1a
20	ENTER	Enter	ENT						
	DIRECT TUNING		D TUN	D202	DF	1a			
21	CUSTOM		CUSTOM	100000000000000000000000000000000000000	C	ustom	operation		*************
22						1		T	T
23									
24	ZONE 3		ZONE 3	D202	5E	1c/1d	Zone 3 o	peratio	)ŋ
25	MACRO		MACRO				peration		
26						1		T	1
27				_	ĺ				<u> </u>
28	ZONE 2		ZONE 2	D26D	cc	1c/1d	Zone 2 o	peratio	'n
29	MODE		MODE				peration		
30						T	1	1	T
31				<u> </u>					
32	INPUT		INPUT			Input o	peration		
33	CH+	Ch+	CH+	D26D		ATTACA TO A STATE OF THE A		THE PROPERTY OF THE PERSON OF	1
	DISC +	Step up	DISC +	1,	1 .77	1	D26D	5C	1a
34	CH-	Ch -	CH -	D26D	-01	1b	1	1	1
•	DISC -	Step down	DISC -	1	1 7	1	D2AC	1E	1a
	VOL +	Vol +	VOL A	D26D	02	1b		#1	4
35			1 , ,						
35 36		Vol -	VOL V	D26D	0.3	1b		#2	Parties.
35 36 37	VOL - DIMMER	Vol -	VOL V DIMMER	D26D D26D	03 95	<b>1b</b> 1a		#2	Parina. Natiak

Key	Function		Symbol		AMP			CD	
No.				Pres	set Cod	е	Pres	set Cod	е
#		Prepro		Custom	Data	Туре	Custom	Data	Туре
		Prepro na	umber				;	####	
38	SLEEP	Sleep	SLEEP	D26D	5D	1a	di Wilhelma	1,88,950	., y
39	DISPLAY	Display	DISPLAY	D26C	55	1a	D26C	58	1a
	PREVIOUS	Previous Channel	PREVIOUS			'-			,
40	MUTING	Mute	MUTING	D26D	05	1a	eissen, s. i	#3	144 1516
41	TOP MENU	Title	TOP MENU	DZOD		10		- 170	7,75,50
-F 1	ASPECT	Aspect, Wide	TV ASPECT					Fr.S.	
42	AUDIO ADJUST	Aspect, Wide	AUDIO ADJUST	Doco	D4	1a	5 7 9 10 01 65 6	10 mg 1950	TEX. 15, 17
42		(Dina) Manus		D26C	D4	ı ıa			
40	MENU	(Disc) Menu	MENU	2000	. = 4		24.650.2446	1121 1334	A. A 11
43	RETURN	Exit	RETURN	D26C	54	1a	Capracia (1	Free, 17,-37	
44	SETUP	Setup Menu, Guide	SETUP	D26C	53	1a			21111
45	CURSOR	Up	Λ	D26D	82	1b	Pattabata		
46	CURSOR	Down	V	D26D	83	ib			
47	CURSOR	Left	<	D26D	84	1b			
48	CURSOR	Right	>	D26D	85	1b			
49	ENTER	Enter	ENTER	D26D	97	1a		120414	334415
		Ok							
50	<b> &lt;&lt;</b>	(VISS Index) Previous	H	D26D	93	1a	D26D	1E	1a
51	PLAY	Play		D26D	15	1a	D26D	1B	1a
52	>>	(VISS Index) Next	<b>→</b>	D26D	94	1a	D26D	1D	1a
53	<<	Fast Rewind	4	D26D	1A	1a	D26D	8B	ib.
	<del></del>			DZOD	1 /- 1 /				_
54	PAUSE	ide					D26D	1F	1a
	REVERSE PLAY			D26D	16	1a			
55	STOP			D26D	13	1a	D26D	1C	1a
56	>>	Forward		D26D	19	1a	D26D	8A	1b
57	REC	cord	●	D26D	18	1a			
	LAST PLAY	Last Play	Last Play						2
58	<	w Rewind	<b>41</b>			100 H.W.			
		Backword			11415				
59	>	Slow Forward	B	Same Cold	NAMES OF	And direct		20400	1999
60	RANDOM	Shuffle (One)	RANDOM	(Autoropega)	0000	2000	D26C	57	1a
61	SURROUND	<b>4</b>	SURR	D26C	4D	1a	477 (444)	1 1 2 3 1 2 1	30000000
٠.	AUDIO	Audio	AUDIO	DEGG	70.		Arrive.		
62	THX	1 >	THX	D26C	4E	1a	A STATE OF THE STA	e v jakon na	1 1 1 1 1 1 1
ŲZ	ANGLE			D20C	. * <b>+</b> :⊏ ':	Ja		h X iii	
		Angle	ANGLE ALL ST	::: D000			The Wills 1990.	100	1 N. 142 Hall 1940 Million
63	ALL CH STEREO		I	D26C	52	1a			
	SUBTITLE	Language	SUBTITLE					1.000	ANEWA
64	STEREO		STEREO	D26C	4C	1a			
	CLEAR	(Memo) Clear	CLEAR	1			D26D	9E	1a
65	PURE AUDIO		PURE A	D26C	D3	1a			
	REPEAT	Repeat	REPEAT			<u> </u>	D26C	56	1a
66	DIRECT		DIRECT	D26D	44	1a			
	A-B	Repeat A-B	А-В		1				
67	DSP -		< DSP	D26C	19	1a	5343200	1 11 17 11 11	. : : : : : : : : : : : : : : : : : : :
'	SEARCH	Scan	SEARCH						
68	DSP+		DSP >	D26C	18	1a		1	1
~~	MEMORY	Memery, Program	MEMORY				D26D	49	1a
69	TEST	institut, i rogiani	TEST	D26D	9A	1a :	U20D	73	101
09				D20D	JA:				
72	PLAYLIST	<del>- </del>	PLAYLIST	Deac	1.004.411		10.7 % 344 65.77	Harris V	1 107 127
70	CH SEL		CH SEL	D26C	44	1a			
	ALBUM		ALBUM	ļ			Mysum NV	463.35	- 44
71	LEVEL -		< LEVEL	:: D26C	43	15			1555
<u> </u>	ARTIST		ARTIST		<u></u>				<u> </u>
72	LEVEL +		LEVEL >	D26C	42	1b		1544	1000
	GENRE		GENRE	I		1		, and the second	J. This
	EJECT	Eject	<b>_</b>	1			D26D	91	1a
74									
74	OPEN / CLOSE			D26C	D8	1a			

Key	Function		Symbol		AMP			CD	
No.				Pres	et Cod	е	Pres	set Cod	е
#		Prepro		Custom	Data	Туре	Custom	Data	Туре
		Prepro num	ber				-	####	
73	AUDIO SELECTOR		A SEL	D26C	D9	1a			1411
	DELETE	<b>_</b>	DEL.				austre Grad		
75	LATE NIGHT		L NIGHT	D26C	D7	1a	deserçiyê û	1337	1411
	LANGUAGE		LANGUAGE				4 Perch	3.44	11,411
76	Re-EQ		Re-EQ	D26C	D6	1a			4000 46
	LOCATION		LOCATION				arinerisio	hatta	
77	Scrolling Jog upward			Sc	rolling	Jog u	pward ope	ration	
78	Scrolling Jog downwar	rd		Scr	olling .	Jog dov	vnward o	peratio	n
79	Pressing Jog				Pres	sing Jo	g operati	on	
	Input DVD		DVD	D26C	8C	1a		1	
Г	Input VIDEO 1		V1	D26D	OF	1a			
	Input VIDEO 2		V2	D26D	0E	1a			
	Input VIDEO 3		V3	D26D	0D	_ 1a			
	Input VIDEO 4		V4	D26D	9F	1a			
	Input VIDEO 5		V5	D26D	9D	la .			
	Input VIDEO 6		V6	D26D	9C	1a			
	Input VIDEO 7		V7	D26C	cc	1a			
	Input CD		CD	D26D	09	1a			
	Input PHONO		PHONO	D26D	OA.	Ja			
	Input TUNER		TUNER	D26D	OB	1a			
	Input TAPE		TAPE	D26D	08	1a			
	Input TAPE 1		TAPE1	D26D	08	1a			
	Input TAPE 2		TAPE2	D26D	- 07	1a			
	Input MUSIC SERVER	t	MSRV	D202	88	:Ja			
	Input INTERNET RAD	10	IRD	D202	89	1a		1	

Preset and Learnable area
Learnable area

Preset, Prepro and Learnable area Prepro and Learnable area

### 3.14.2 DVD Code Table

Key	Function		Symbol			D١	/D		
No.				Pres	et Cod	е			
#		Prepro		Custom	Data	Type	Custom	Data	Type
		Prepro nu	umber	#	###		1	####	
side	LIGHT			************		ight o	eration		
1	POWER ON	Plower On	I	D2AC	04	1a	D22B	99	1a :
2	STANDBY	RI)wer Off	Ф	D2AC	- 06	1a	D22B	8C	1a
3	TV POWER	75 Power	<u>6/1</u>				#1 of TV N		Marik
4	TV INPUT	TV TV/Video	INPUT				37 of TV I		
5	TV CH +	TV Ch +	+	T	he sar	ne as #	33 of TV I	Vlode	
6	TV CH -	TV Ch -	-	ES AUSTRIA	he sar	ne as #	34 of TV I	Vlode	
7	TV VOL +	TV Vol +	+	7553	he sar	ne as #	35 of TV I	Vlode	Maria
8	TV VOL -	TV Vol -	-	The state of	he sai	ne as #	36 of TV I	Vlode	Harry
9	1 @,-7	1	1 @,-7	D2AC	0E	1a :	D22B	0E	- 1a
10	2 ABC	2	2 ABC	D2AC	OF	1a	D22B	OF	la.
11	3 DEF	3	3 DEF	D2AC	10	fa	D22B	10	-1a
12	4 GHI	4	4 GHI	D2AC	11	1a	D22B	11	.: 1a
13	5 JKL	5	5 JKL	D2AC	12	1a	D22B	12	1a
14	6 MNO	6	6 MNO	D2AC	13	. 1a	D22B	13	1a
15	7 PQRS	7	7 PQRS	D2AC	-14	1a	D22B	14	1a
16	8 TUV	8	8 TUV	D2AC	15	1a	D22B	15	: 1a
17	9 WXYZ	9	9 WXYZ	D2AC	16	1a	D22B	16	1a
18	+10	+10	+10	D2AC	18	1a	D22B	18	1a -
	/		/			************	OPERATOR OF STREET	CONTRACTOR	ninencenti (ete tati
19	0	0	0	D2AC	-17	1a	D22B	17	1a
20	ENTER	Enter	ENT	14000000000	1.77.77	7.77		100	F
	DIRECT TUNING		D TUN		white				
21	CUSTOM		CUSTOM	nga kalawania ma		ustom	operation		
22		***			***************************************	T			
23		1				<u> </u>			
24	ZONE 3		ZONE 3	D202	5E	1c/1d	Zone 3 o	peration	1
25	MACRO		MACRO				peration		
26			11010	200000000000000000000000000000000000000	Antonio Antonio T.				*****
27						-			
28	ZONE 2		ZONE 2	D26D	CC	1 <i>c</i> /1 <i>d</i>	Zone 2 o	neration	4
29	MODE		MODE				peration	PANAMENTA	
30					ACT:2709/75785	1995 (200			
31						i –		1	
32	INPUT		INPUT		A Company of the Comp	Input o	peration		
33	CH+	Ch +	CH+			13,000,000	TOTAL TOTAL TOTAL STATE	TATAL SOLVE SOLVE	**************************************
55	DISC +	Step up	DISC+	D2AC	0B	1a	D22B	D3	1a
34	CH-	Ch -	CH -		10 (00 00 To E 2 (000 )	CONTRACTOR OF THE PERSON			and the second
07	DISC -	Step down	DISC -	D2AC	00	์สั	D22B	D4	-1a
35	VOL+	Voi +	VOL A		VVAVA A 17A - VAVA			- \$1.75 garnes (5-17)	Sec. 15.4
36	VOL -	Vol -	VOLV				300000000000000000000000000000000000000		
37	DIMMER	1.0	DIMMER	NACHÉ NE	14,455.1	To NAK	1000000	1	A reserv
01	TV / VIDEO	TV / Video, TV / VCR	TV / VIDEO						
			1	1 44.00 00 000	100000 10000	4 4 7 4 7 7 7 7	<u> </u>	1 1 1	1

Key	Function	1	Symbol	1		יח	/D		
No.	1 dilonon		Symbol	Prese	t Cod			ZÖZMAN	
#		Prepro		Custom		Туре	Custom	Data	Type
		Prepro nu	mber		<del>           </del>	. 7 (		####	- 7
38	SLEEP	Sleep	SLEEP	-1.44(1.44(1.4)	14. je.,	F-1100			Optili
39	DISPLAY	Display	DISPLAY	D2AC	OD	1a	D22B	06	1a
1	PREVIOUS	Previous Channel	PREVIOUS		X-10-10-10-10-10-10-10-10-10-10-10-10-10-		*****************		***************************************
40	MUTING	Mute	MUTING		#3		46.000	#3	
41	TOP MENU	Title	TOP MENU	D26C	98	1a	D22B	4E	1a
l	ASPECT	Aspect, Wide	TV ASPECT						
42	AUDIO ADJUST		AUDIO ADJUST	1					
	MENU	(Disc) Menu	MENU	D26C	99	1a	D22B	4F	1a
43	RETURN	Exit	RETURN	D26C	9F	1a.	D22B	09	1a
44	SETUP	Setup Menu, Guide	SETUP	D26C	97	1a	D22B	40	1a
45	CURSOR	Up	Λ	D26C	9A:	-1a	D22B	50	1a
46	CURSOR	Down	V	D26C	9B	1a	-D22B	51	1a
47	CURSOR	Left	<	D26C	9C	1a	D22B	52	1a
48	CURSOR	Right	>	D26C	9D	1a	D22B	53	1a
49	ENTER	Enter	ENTER	D26C	9E	1a	D22B	- 08	1a
<u></u>		Ok							
50	<b> &lt;&lt;</b>	(VISS Index) Previous	H	D26C	**********	A . A	D22B	1E	1a
51	PLAY	Play		D26C	8D	1a	D22B	18	1a
52	>>	(VISS Index) Next	<b>&gt;&gt;</b>	D26C	8F	1a	D22B	10	1a
53	<<	Fast Rewind		D26C	92	1a	D22B	OD	1a
54	PAUSE	ld-de	11.11	D26C	93	1a	D22B	i dE	fa .
	REVERSE PLAY		_	2000			- Boon		
55	STOP	Didp!		D26C	8E	1a	D22B	1C	1a
56	>>	Forward	- I'	D26C	91	1a	D22B	OC:	=1a=
57	REC LAST PLAY	cord Last Play	• LastPlay	D26C	94	1a	D22B	49	1a-
58		w Rewind	-del	D26C	C1	1a	D22B	8F	1a
36	<	Backword		U20C	VI.	la	DZZD	ОГ	l d
59	1>	Slow Forward		D26C	ďΩ	da	D22B	OB	1a
60	RANDOM	Shuffle (One)	RANDOM	D2AC		1a	D22B		1a
61	SURROUND	⊲ ■	SURR	DENO	un.	164	DEZU	- On	10
] "	AUDIO	Audio	AUDIO	D2AC	กล	1a	D22B	55	1a
62	THX	<b>I</b>	THX						
~-	ANGLE	Angle	ANGLE	D2AC	ng.	1a	D22B	07	1a
63	ALL CH STEREO		ALL ST					1	
'	SUBTITLE	Language	SUBTITLE	D26C	96	1a	D22B	54	1a
64	STEREO		STEREO		**************************************		1000)		
	CLEAR	(Memo) Clear	CLEAR	D2AC	1C	1a	D22B	4B	1a
65	PURE AUDIO	<u> </u>	PURE A			-	1		<del></del>
	REPEAT	Repeat	REPEAT	D2AC	1A	1a	D22B	44	1a
66	DIRECT		DIRECT						
	A-B	Repeat A-B	A-B	D2AC	1D	1a	D22B	45	1a
67	DSP -		< DSP						
	SEARCH	Scan	SEARCH	D2AC	19	1a	D22B	19	1a
68	DSP+		DSP >		al Andrian Indian	Lauran	a Shanabaabii taalaa	pro phylogottona	
<u></u>	MEMORY	Memery, Program	MEMORY	D2AC	1B	<u> 1</u> a	D22B	4A	1a
69	TEST		TEST						
<u> </u>	PLAYLIST		PLAYLIST	Statistical and	1 970	A the	a vice?	ANNERS	13445 134
70	CH SEL		CH SEL						
-	ALBUM		ALBUM						
71	LEVEL -	1	< LEVEL			1 2-66 k 1		1000	Mar Y
70	ARTIST		ARTIST	175,27 to 1	- 041 (5) H 	1 (000000)			
72	LEVEL +		LEVEL >		*(186)				
74	GENRE EJECT	Eject	GENRE	D2AC	-02	 	Dage	0.5	1a
'4	OPEN / CLOSE	Eject		DZAG	UL	la :	U22B	u	la.
	CAPS		CAPS						
Щ.	JONE 3		TOVE 2	<u> </u>		1	<u> </u>	1	1

Key	Function		Symbol	1		D/	VD.		1
No.				Pres	set Cod	е			\$ 75 M
#		Prepro		Custom	Data	Type	Custom	Data	Type
į		Prepro numb	oer	i	####		;	<del>///////</del>	
73	AUDIO SELECTOR		A SEL			2000		1,1414	
	DELETE	<u></u>	DEL		Allera.			1 1	
75	LATE NIGHT		L NIGHT		7.1	1198.5		1,40,41	
	LANGUAGE		LANGUAGE	- 1974 (Fig. )	1. 2.4	spaliti	250,004		100
76	Re-EQ		Re-EQ	13.1	and the	HELL		21.75	41.14
	LOCATION		LOCATION	1919-01/8/9		100			
77	Scrolling Jog upward		•	Sc	rolling	Jog u	pward ope	ration	
78	Scrolling Jog downwa	rd		Scr	olling .	Jog do	wnward o	oeratio	Π
79	Pressing Jog				Pres	sing Jo	og operati	on	

Preset and Learnable area
Learnable area
Preset, Prepro and Learnable area
Prepro and Learnable area
Fixed TV command area
Special operation, unable to learn

Code table Falcon and Skyhawk

Code	e table Falcon an	d Skyhawk			
Key	Function		Symbol	Net-Tune	TV VCR
No.				Preset Code	
#		Prepro		Custom Data	Туре
L		Prepro nu	ımber	####	
side	LIGHT				eration
1	POWER ON	Plower On	1	D26D 04	1a
2	STANDBY	<b>R</b> 1)wer Off	(b)	D26C 47	1a - Sabe steat Bleur and
3	TV POWER	₹ <b>b</b> Ødwer	<u>ወ</u> /I	The same	as #1 of TV Mode
4	TV INPUT	TV TV/Video	INPUT		as #37 of TV Mode
5	TV CH +	TV Ch +	+		as #33 of TV Mode
6	TV CH -	TV Ch -	-	The same a	as #34 of TV Mode
7	TV VOL +	TV Vol +	+	The same a	as #35 of TV Mode
8	TV VOL -	TV Vol -	-	The same a	as #36 of TV Mode
9	1 @,-'/	1	1 @,-'/	D202 D5	1a
10	2 ABC	2	2 ABC	D202 D6	1a a
11	3 DEF	3	3 DEF	D202 D7	1a
12	4 GHI	4	4 GHI	D202 D8	1a
13	5 JKL	5	5 JKL	D202 D9	1a a a a a a a a a a a a a
14	6 MNO	6	6 MNO	D202 DA	1a
15	7 PQR\$	7	7 PQRS	D202 DB	1a
16	8 TUV	8	8 TUV	D202 DC	1a
17	9 WXYZ	9	9 WXYZ	D202 DD	1a
18	+10	+10	+10		
	/		/		1753 A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
19	0_	0	0_	D202 DE	1a
20	ENTER	Enter	ENT		
1	DIRECT TUNING		D TUN		
21	CUSTOM		CUSTOM	Custo	om operation
22					
23					
24	ZONE 3		ZONE 3	= D202 5E /	1c/1d Zone 3 operation
25	MACRO		MACRO	Macı	ro operation
26					
27					
28	ZONE 2		ZONE 2	D26D CC 1	c/1d Zone 2 operation
29	MODE		MODE	Mod	le operation
30					
31					
32	INPUT		INPUT		ut operation
33	CH+	Ch +	CH+		1b
	DISC +	Step up	DISC +		
34	CH-	Ch -	CH -	D26D 01	1b
	DISC -	Step down	DISC -		
35	VOL+	Vol +	VOL A	#1.	
36	VOL -	Vol -	VOL V	#2	#2
37	DIMMER		DIMMER		
1	TV / VIDEO	TV / Video, TV / VCR	TV / VIDEO		

#### RC1406901 (Falcon & Skyhawk) Universal RF Remote

Key	Function	ļ	RC1406901 (I Symbol		t-Tune	,	TV	VCR
No.				Pres	et Cod			
#		Prepro		Custom	Data	Туре	1	i
L		Ргерго пи			111111			
38	SLEEP	Sleep	SLEEP	304 F. CAL				
39	DISPLAY	Display	DISPLAY	D202	9E	1a		
	PREVIOUS	Previous Channel	PREVIOUS			i		
40	MUTING	Mute	MUTING		#3			#3
41	TOP MENU	Title	TOP MENU		1.754			
1	ASPECT	Aspect, Wide	TV ASPECT					
42	AUDIO ADJUST		AUDIO ADJUST	480,144,144,471		DA4 15		
1	MENU	(Disc) Menu	MENU					
43	RETURN	Exit	RETURN	GW.WGW?	Arra M	#5/19.NI		
44	SETUP	Setup Menu, Guide	SETUP	D202	9F	1a		
45	CURSOR	Up	٨	D202	C0	1b		
46	CURSOR	Down	V	D202	C1	1b		
47	CURSOR	Left	<	D202	C2	1b	342030000000	
48	CURSOR	Right	>	D202	C3	1b	Selection Co.	
49	ENTER	Enter	ENTER	D202	C4	1a		
'*		Ok	[		~ ``			
50	<b> </b> <<	(VISS Index) Previous	144	D202	90	1a		
51	PLAY	Play		D202	8D	1a		
52	>>	(VISS Index) Next	<b>&gt;&gt;</b>	D202	8F	1a		
53	<<	Fast Rewind	44	D202	81	1b		
54	PAUSE	idde		D202	91	1a		
"	REVERSE PLAY		==	DZUZ				
55	STOP			D202	8E	1a		
56	>>	Forward	<b>-</b>	D202	80	1b	-121-4-11-4-12	
57	REC	cord	•	DZUZ	00	1		
51		I —	<del>-</del>					
	LAST PLAY	Last Play	Last Play  ◀¶	12.000 000.000	TV Liberah	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
58	<b> </b> <	w Rewind	7.0					
	15	Backword	<b>I</b>	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
59	>	Slow Forward	RANDOM	DOOO	00	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12.1 ( 1	
60	RANDOM	Shuffle (One)		D202	93	1a	-3.01-03:44.3	To a transfer of the contract
61	SURROUND		SURR					
<u> </u>	AUDIO	Audio	AUDIO	internet	[2.7] (4.2) (4.7)	1		
62	THX		THX					
L.	ANGLE	Angle	ANGLE		1.378.00			*******
63	ALL CH STEREO		ALL ST					
L	SUBTITLE	Language	SUBTITLE		***********	twill resident		Sabaliana
64	STEREO		STEREO					
L	CLEAR	(Memo) Clear	CLEAR					
65	PURE AUDIO		PURE A					
<u> </u>	REPEAT	Repeat	REPEAT	D202	92	1a		
66	DIRECT		DIRECT					
	A-B	Repeat A-B	A-B	542746				
67	DSP -		< D\$P					
	SEARCH	Scan	SEARCH		Pri bases			
68	D\$P+		DSP >	S MARK	Jack.			
	MEMORY	Memery, Program	MEMORY					
69	TEST		TEST					
	PLAYLIST		PLAYLIST	D202	9B	1a		
70	CH SEL		CH SEL				404,4345E	
	ALBUM		ALBUM	D202	98	1a		
71	LEVEL -		< LEVEL	1	[		STEELS:	and the
	ARTIST		ARTIST	D202	99	1a		
72	LEVEL +		LEVEL >	1	T	1		
'-	GENRE		GENRE	D202	9A	1a		
74	EJECT	Eject	<b>A</b>	1		T	1	
1 ''	OPEN / CLOSE	1		1				
	CAPS		CAPS	D202	D0	1a		
	1		1			1	1	

Key	Function		Symbol	Net-Tune			TV	VCR
No.				Preset Code				
#		Prepro		Custom	Data	Туре		
		Prepro numi	ber	7	<del>####</del>		Ì	
73	AUDIO SELECTOR		A SEL					
1	DELETE	<b> </b> ▲	DEL	D202	D1	1a		
75	LATE NIGHT		L NIGHT					
	LANGUAGE		LANGUAGE	D202	9D	1a		
76	Re-EQ		Re-EQ					
l	LOCATION		LOCATION	D202	9C			
77	Scrolling Jog upward						vard Oper	
78	Scrolling Jog downwar	rd		Scroll	ing Jo	g Down	nward Ope	ration
79	Pressing Jog				Pressi	ng Jog	Operation	

Preset and Learnable area

Learnable area

Preset, Prepro and Learnable area
Prepro and Learnable area
Fixed TV command area

### 3.14.4 CDR and Cable Code Table

Code	table Falcon an	d Skyhawk			
Key	Function	1	Symbol	CDR	Cable
No.				Preset Code	
#		Prepro		Custom Data Type	
		Prepro nu	ımber	####	
side	LIGHT			Light opera	ition
1	POWER ON	Plower On	1	D2AC 97 1a	
2	STANDBY	RI)wer Off	ψ	D2AC 9C 1a	
3	TV POWER	7Ů F∕dwer	⊕/  The sai	me as #1 of TV Mode	
4	TV INPUT	TV TV/Video	INPUT	as #37 of TV Mode	
5	TV CH +	TV Ch +	+	as #33 of TV Mode	
6	TV CH -	TV Ch -	-	as #34 of TV Mode	
7	TV VOL +	TV Vol +	+	as #35 of TV Mode	
8	TV VOL -	TV Vol -	-	as #36 of TV Mode	
9	1 @,-'/	1	1 @,-'/	D2AC 55 1a	
10	2 ABC	2	2 ABC	D2AC 56 1a	
11	3 DEF	3	3 DEF	D2AC 57 1a	
12	4 GHI	4	4 GHI	D2AC 58 1a	
13	5 JKL	5	5 JKL	D2AC 59 1a	
14	6 MNO	6	6 MNO	D2AC 5A 1a	
15	7 PQRS	7	7 PQRS	D2AC 5B 1a	
16	8 TUV	8	8 TUV	D2AC 5C 1a	
17	9 WXYZ	9	9 WXYZ	D2AC 5D 1a	to all talks are
18	+10	+10	+10		
	/		/	D2AC 5F 1a	
19	0	0	0_	D2AC 5E 1a	
20	ENTER	Enter	ENT		
j	DIRECT TUNING		D TUN		
21	CUSTOM		CUSTOM	Custom ope	ration
22					
23					
24	ZONE 3		ZONE 3	D202 5E 1c/1d Z	one 3 operation
25	MACRO		MACRO	Macro oper	ation
26					
27					
28	ZONE 2		ZONE 2	D26D CC 1c/1d 2	one 2 operation
29	MODE		MODE	Mode oper	ation
30					
31					
32	INPUT		INPUT	Input opera	ation
33	CH+	Ch +	CH+		
L	DISC +	Step up	DISC +		
34	CH-	Ch -	CH-		
L	DISC -	Step down	DISC -		
35	VOL+	Vol +	VOL /\		#1
36	VOL -	Vol -	VOL V	#2	#2
37	DIMMER		DIMMER		
i	TV / VIDEO	TV / Video, TV / VCR	TV / VIDEO	- [휴등문항회] 이동 원 [대화회]	

Key	Function						Cable	
No.				Preset Code				
#		Prepro		Custom		Туре		
		Prepro nu		<del></del>	####			
38	SLEEP	Sleep	SLEEP					
39	DISPLAY	Display	DISPLAY	D2AC	99	la		
	PREVIOUS	Previous Channel	PREVIOUS			l		
40	MUTING	Mute	MUTING		#3		#3	
41	TOP MENU	Title	TOP MENU					
	ASPECT	Aspect, Wide	TV ASPECT	11000	Still Still	institution	American finds	
42	AUDIO ADJUST		AUDIO ADJUST					
	MENU	(Disc) Menu	MENU		004000			
43	RETURN	Exit	RETURN	J. British P.		J 2 - 52		
44	SETUP	Setup Menu, Guide	SETUP	A REPORT		Jan an A		
45	CURSOR	Up	Λ	AMMETS.	ART FR			
46	CURSOR	Down	V	45,204, 6,0	nageruge S	TARAM	display the same	
47	CURSOR	Left	<	ridili salasta	princing.			
48	CURSOR	Right	>	Production and the	-State (1940)			
49	ENTER	Enter	ENTER	24-93 A. T19 C 3. A.				
		Ok						
50	<b> </b> <<	(VISS Index) Previous	H	D2AC	90	1a		
51	PLAY	Play		D2AC	8D	1a		
52	>>	(VISS Index) Next	<b>&gt;</b>	D2AC	8F	- 1a		
53	<<	Fast Rewind	4	D2AC	01	1b		
54	PAUSE	144		D2AC	91	1a		
	REVERSE PLAY			Ì				
55	STOP	Dide	"	D2AC	8E	1a		
56	>>	Forward	<b>&gt;&gt;</b>	D2AC	00	1b		
57	REC	cord	•	D2AC	92	1a		
1	LAST PLAY	Last Play	Last Play					
58	<	w Rewind	<b>4</b>	ACT TOO				
		Backword		Total House				
59	>	Slow Forward	-	#Paretread	5/5/5	Parties		
60	RANDOM	Shuffle (One)	RANDOM	D2AC	9A	1a		
61	SURROUND	<b>4</b>	SURR	hamine.	5.677935			
	AUDIO	Audio	AUDIO					
62	THX	<b>*</b> -	THX	21.11.21.11.22.22.20.20 21.11.21.21.21.22.22.22.22.22.22.22.22.2	i kan			
	ANGLE	Angle	ANGLE					
63	ALL CH STEREO		ALL ST	Á SIGNA			200000000000000000000000000000000000000	
	SUBTITLE	Language	SUBTITLE				A	
64	STEREO		STEREO	1				
	CLEAR	(Memo) Clear	CLEAR	D2AC	93	1a		
65	PURE AUDIO		PURE A				News Assess	
L	REPEAT	Repeat	REPEAT	D2AC	94	1a		
66	DIRECT		DIRECT	1000				
L	A-B	Repeat A-B	А-В					
67	DSP -		< DSP	1475-1576				
1	SEARCH	Scan	SEARCH			Faritie.		
68	DSP +		DSP >	1			41,12,13,13	
1	MEMORY	Memery, Program	MEMORY	D2AC	9B	1a		
69	TEST		TEST					
1	PLAYLIST		PLAYLIST	LASSES				
70	CH SEL		CH SEL	Transitivé	100000			
1	ALBUM		ALBUM	A SLAVE		Table.		
71	LEVEL -		< LEVEL	TANK TAN	1			
1	ARTIST		ARTIST					
72	LEVEL +	**	LEVEL >	Transition in	<del>La dir</del>	1.5.00	1. 1. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	
•	GENRE		GENRE					
74	EJECT	Eject		D2AC	98	1a		
1	OPEN / CLOSE	¥===	_		-	.~		
	CAPS		CAPS					
<u></u>	<u></u>		10.00			1	<u> </u>	

Key	Function		Symbol	CDR	Cable
No.				Preset Code	
#		Prepro		Custom Data Type	
		Prepro numb	ber	#####	
73	AUDIO SELECTOR		A SEL		
	DELETE	<b>_</b>	DEL		
75	LATE NIGHT		L NIGHT	NESSEE NEED EEUS	
	LANGUAGE		LANGUAGE		
76	Re-EQ		Re-EQ		
	LOCATION	:	LOCATION		
77	Scrolling Jog upward			Scrolling Jog Upv	vard Operation
78	Scrolling Jog downwa	rd		Scrolling Jog Down	
79	Pressing Jog			Pressing Jog	Operation

> Preset and Learnable area Learnable area

Preset, Prepro and Learnable area Prepro and Learnable area

## 3.14.5 MD and Satellite Code Table

Key	Function		Symbol	MD		Satellite		
No.				Preset Code				
#		Prepro		Custom Data Type				
		Prepro nu	ımber	7	<del>      </del>			
side	LIGHT			110000000000000000000000000000000000000	Li	ght ope	ration	
1	POWER ON	Plwer On	I	D2AC	44	1a		
2	STANDBY	Rower Off	(b)	D2AC	46			
3	TV POWER	70 Fdwer	<b>位/I</b>	S.S. S.T.	ne sam	e as #1	of TV Mode	
4	TV INPUT	TV TV/Video	INPUT	Th.	e sam	e as #3	7 of TV Mode	
5	TV CH +	TV Ch +	+	The same as #33 of TV Mode				
6	TV CH -	TV Ch -	_	The same as #34 of TV Mode				
7	TV VOL +	TV Vol +	+				5 of TV Mode	
8	TV VOL -	TV Vol -	-	g and Th	e sam	e as #3	6 of TV Mode	
9	1 @,-7	1	1 @,-'/	D2AC	47	1a		
10	2 ABC	2	2 ABC	D2AC	48	1a		
11	3 DEF	3	3 DEF	D2AC	49	1a		
12	4 GHI	4	4 GHI	D2AC	4A	1a		
13	5 JKL	5	5 JKL	D2AC	4B	1a		
14	6 MNO	6	6 MNO	D2AC	4C	1a		
15	7 PQRS	7	7 PQRS	D2AC	4D	1a		
	8 TUV	8	8 TUV	D2AC	4E	1a		
17	9 WXYZ	9	9 WXYZ	D2AC	4F	1a	100	
18	+10	+10	+10					
	/		/	D2AC	51	1a		
19	0	0	0	D2AC	50			
20	ENTER	Enter	ENT	D26C	17	1a		
	DIRECT TUNING		D TUN					
21	CUSTOM		CUSTOM		Cu	stom o	peration	
22					1			
23						ĺ		
24	ZONE 3		ZONE 3	D202	5E	1c/1d	Zone 3 operation	
25	MACRO	1	MACRO				eration	
26								
27				<u> </u>				
28	ZONE 2		ZONE 2	D26D	cc	1c/1d	Zone 2 operation	
29	MODE	<u> </u>	MODE	100000000000000000000000000000000000000			eration .	
30					T T			
31		1			İ			
32	INPUT		INPUT	New York Control of the Control of t	ln	put op	eration	
33	CH+	Ch+	CH+					
	DISC +	Step up	DISC +				THE PROPERTY OF THE PROPERTY O	
34	CH-	Ch -	CH -	#JED-10500		linital.		
٠.	DISC -	Step down	DISC -					
35	VOL +	Vol +	VOL A		#1		#1	
36	VOL -	Vol -	VOL V	JA 1 1-1-1	#2	19.1196	#2	
37	DIMMER		DIMMER	1947967e+601	194 W	H. E. C.		
	TV / VIDEO	TV / Video, TV / VCR	TV / VIDEO	9:24:5496.0	HENCE.			

Key	Function		RC1406901 (Falc		MD		Satellite	
No.				Pres	set Code	<del>,</del>	]	
#		Ргерго		Custom		Туре	]	
		Prepro nu		:	<del>              </del>			
38	SLEEP	Sleep	SLEEP	And A Million			3891509	
39	DISPLAY	Display	DISPLAY	D26C	11.	1a		
	PREVIOUS	Previous Channel	PREVIOUS					
40	MUTING	Mute	MUTING		#3	Ş V-SSE	#3	
41	TOP MENU	Title	TOP MENU					
	ASPECT	Aspect, Wide	TV ASPECT	3.44.2449	5.00	BMA		
42	AUDIO ADJUST		AUDIO ADJUST		WWW.	Deletile.		
	MENU	(Disc) Menu	MENU		Jailyle:			
43	RETURN	Exit	RETURN			433.419		
44	SETUP	Setup Menu, Guide	SETUP		E. X. E. E. Y. E.			
45	CURSOR	Up	٨					
46	CURSOR	Down	٧		Production of the		er en en	
47	CURSOR	Left	<	F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4 Vitalia	ayit'vii		
48	CURSOR	Right	>	W-1000	SHENE:	15-15-15		
49	ENTER	Enter	ENTER	ACESSES OF S	11 12 19 19	Yagara		
	]	Ök						
50	<b> </b> <<	(VISS Index) Previous	144	D26C	0D	1a	Albani en k	
51	PLAY	Play		D26C	0A	1a		
52	>>	(VISS Index) Next	<b>→</b>	D26C	OC.	1a		
53	<<	Fast Rewind	4	D26C	-01	1b		
54	PAUSE	T dat Newlind		D26C	0E	1a		
~	REVERSE PLAY			D200	UL	· ia		
55	STOP			D26C	.0B	1a		
56	>>	Forward	<b>&gt;&gt;</b>	D26C	00	1b	Contraction Contraction	
57	REC	cord	•	D26C	OF	1a		
"	LAST PLAY	Last Play	1 -	D200	UF	. Ia		
58		w Rewind	Last Play <b>▼</b> ■	5. 50 - 50 - 50	rannas grassa	4 14 14 4 J		
36	<b> </b> <	Backword						
50			<b>B</b> >-	Checkel Specific	A Street of the	ele, i Deen ĝil Lin annan		
59	>	Slow Forward		- D000		2509, N. W. A.		
60	RANDOM	Shuffle (One)	RANDOM	D26C	15	1a	SACH THALLS INTO	
61	SURROUND		SURR				Strate,	
100	AUDIO	Audio	AUDIO				Enterthis and	
62	THX	-	THX					
<u> </u>	ANGLE	Angle	ANGLE		H104004			
63	ALL CH STEREO		ALL ST					
<u> </u>	SUBTITLE	Language	SUBTITLE		Similar			
64	STEREO		STEREO					
	CLEAR	(Memo) Clear	CLEAR	D26C	14	1a	racantálá	
65	PURE AUDIO		PURE A					
<u> </u>	REPEAT	Repeat	REPEAT	D26C	16	1a		
66	DIRECT		DIRECT					
<u> </u>	A-B	Repeat A-B	A-B					
67	DSP -		< DSP					
	SEARCH	Scan	SEARCH			SUPER		
68	DSP +		DSP >					
	MEMORY	Memery, Program	MEMORY	D26C	10	:: 1a		
69	TEST		TE\$T					
	PLAYLIST		PLAYLIST			1256		
70	CH SEL		CH SEL	154-2512-659	(12. F.)	- jwiii (el		
L.	ALBUM		ALBUM					
71	LEVEL -		< LEVEL		10000	700		
	ARTIST		ARTIST					
72	LEVEL +		LEVEL >		144		14.1.4	
-	GENRE		GENRE			1.14		
74	EJECT	Eject	<u> </u>	D2AC	45	1a	No. 15754	
	OPEN / CLOSE							
	CAPS		CAPS					
ь			10.50		<u></u>		<u> </u>	

Key	Function		Symbol	MD		Satellite	
No.				Preset Code			
#		Prepro		Custom	Data	Type	
		Prepro numb	oer		####		
73	AUDIO SELECTOR		A SEL	and water			
1	DELETE	<b>_</b>	DEL	Establish:			
75	LATE NIGHT		L NIGHT	Va - 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
<u> </u>	LANGUAGE		LANGUAGE				
76	Re-EQ		Re-EQ	400000		13597	
	LOCATION		LOCATION			面量以	California Contributori
77	Scrolling Jog upward			Scr	olling J	og Upi	ward Operation
78	Scrolling Jog downwa	rd		Scro	lling Jo	g Dow	nward Operation
79	Pressing Jog				Pressi	ng Jog	Operation

> Preset and Learnable area Learnable area set. Prepro and Learnable ar

Preset, Prepro and Learnable area
Prepro and Learnable area

## 3.15 Description of error handling

#### 3.15.1 Watchdog timer

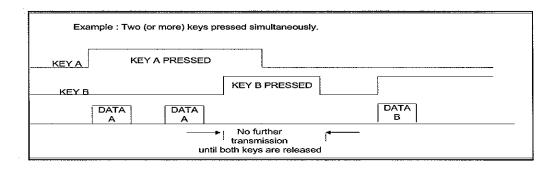
The microcontroller has a built in watchdog timer, which will reset the controller if the program operation should get corrupted.

#### 3.15.2 Stuck key function

A stuck key function prevents that the batteries are drained when a button remains pressed for over 60 seconds (e.g. by placing something heavy on top of the remote). The remote will stop sending automatically after 60 seconds and will resume operation when all keys are released.

#### 3.15.3 Handling of multiple keys

If more than one key is pressed simultaneously, IR transmission will stop until all keys are released. The transmitting LED will turn off.



## 4. External Interface Requirements

#### 4.1 Hardware interfaces

The software has to interact with:

- Input devices
- Output devices
- Storage devices

#### 4.2 Input devices

#### 4.2.1 Keys

These buttons are located on the main body of the remote, house in the top part assembly. Press these buttons activates and make contact with the carbon pad on PWB directly.

#### 4.2.2 Side key

This key mainly to ON/OFF the backlight of the remote.

#### 4.2.3 Jog Dial

This input device is a combination of a rotary switch and a tack switch. The rotary switch enable the user to scroll through and select the item in the menu that is display in the LCD panel. The tack switch enable the user to activate the transmission of the Mode or Selector input code that user has select.

## 4.3 Output Devices

#### 4.3.1 RF Transmission

The module sends signal via a 433.92MHz RF link usable in USA, Canada and Australia, New Zealand and EU market.

#### 4.3.2 Infra Red Emitting Diodes

The IR LED's are used to transmit the selected codes and protocols via IR.

#### 4.3.3 Colour LEDs

The red and green colour indicating LED are located at the top of the remote. Under the MACRO, MODE, INPUT and ZONE2 key, each have a GREEN colour LED.

## 4.4 Storage Devices

#### 4.4.1 **EEPROM**

E2PROM is use to store successfully learned IR codes; device mode status and LCD display status so that the remote is able to operate from the previous selected mode even after battery replacement.

# 5. Universal ID Load List

**Notes:** User need to key in a "0" follow by the 3 digits code indicate in below table to select the Device ID