

XtraView – Technical Manual

(V3.1)



TABLE OF CONTENTS

INTRODUCTION TO XTRAVIEW	ERROR! BOOKMARK NOT DEFINED.
WHAT IS XTRAVIEW?	3
WHY XTRAVIEW AND NOT DUAL VIEW?	3
HOW DOES IT WORK?.....	3
WHAT ARE THE PRIMARY AND SECONDARY DECODER ROLES	3
ABOUT REMOTE MODES	4
WHAT ARE RELAYED REMOTE COMMANDS?	4
WHAT IS REMOTE RELAY AND THE TV EYE	4
HOW CAN YOU VIEW CONTENT FROM A DECODER IN ANOTHER ROOM?.....	5
WHICH DECODERS ARE XTRAVIEW CAPABLE?	5
PROGRAMMING THE HD PVR REMOTE TO EMULATE THE SD PVR REMOTE.....	5
CHOOSING AN XTRAVIEW OPTION	6
EXPLANATION OF XTRAVIEW MENU ITEMS	7
FIRST GENERATION SOFTWARE	7
SECOND GENERATION SOFTWARE	8
INSTALLATION DIAGRAMS	
INSTALLATION 1A (11XX + 11XX DECODERS IN SEPARATE ROOMS)	9
INSTALLATION 1B (11XX + 11XX DECODERS IN THE SAME ROOM).....	11
INSTALLATION 2A (HD PVR + 11XX DECODER IN SEPARATE ROOMS) ..	ERROR! BOOKMARK NOT DEFINED.
INSTALLATION 2B (HD PVR + 11XX DECODER IN THE SAME ROOM)	15
INSTALLATION 3A (HD PVR + HD PVR IN SEPARATE ROOMS)	17
INSTALLATION 3B (HD PVR + HD PVR IN THE SAME ROOM).....	19
INSTALLATION 4A (HD PVR + SD PVR IN SEPARATE ROOMS)	21
INSTALLATION 4B (HD PVR + SD PVR IN THE SAME ROOM)	24
APPENDIX A: LNB INSTALLATION OPTIONS (FOR XTRAVIEW COMBOS)	27
11XX + 11XX.....	27
HD PVR + 11XX.....	28
HD PVR + HD PVR.....	30
HD PVR + SD PVR	32
APPENDIX B: SPLITTING AND COMBINING OF SIGNALS	ERROR! BOOKMARK NOT DEFINED.34
SPLITTING SIGNALS TO TVs.....	34
SPLITTING SIGNALS TO USE A TV EYE OR EXTRAVIEW	34
COMBINING SIGNALS FROM DECODERS	36
EXAMPLE DIAGRAMS	36
APPENDIX C: TROUBLESHOOTING AN INTERMITTANT HEARTBEAT	41

❗ This Guide supplements the information supplied with decoders as well as any installation information available on our website. For more information, visit www.dstv.com
XtraView – Technical Manual V3.1 (August 2009) e&oe

❗ If you have technical comments or want to chat to other users about the installation and connection of a decoder or XtraView, visit the forums at www.dstv.com

What is XtraView?

XtraView is a cost effective and flexible solution allowing you to link two XtraView capable DStv decoders* at a cost of a single subscription, plus an access fee* each month.

XtraView allows you to increase the number of TV channels which can be viewed simultaneously in your home without having to pay an additional subscription. (* Please see the website for full information on XtraView, including XtraView Combos, current access fee, and full terms & conditions).

Why XtraView and not Dual View?

- Building Dual View in one decoder requires complex software that proved expensive and very time-consuming when trying to add even the simplest new functionality.
- People with one TV are not forced to pay for functionality they cannot / don't want to use.
- You can add viewing environments as and when you need them.
- With separated decoders, high-quality video and audio is possible in more than one room.
- With XtraView you can also have full functionality at a 2nd viewing point (Dual View did not allow for TV Guides, Interactive Services, Subtitles, etc on TV2).

How does it work?

- Decoders are linked together by way of a "heartbeat". The heartbeat is sent from the primary decoder to the secondary decoder every 30 seconds.
- The primary decoder will talk to no other secondary decoder and the secondary decoder will listen to no other primary decoder.
- If the secondary decoder loses the heartbeat for more than 30 minutes, it will stop showing video and audio until the heartbeat is restored.
- The heartbeat is sent from, and received by, RF ports via the normal RF cable.
- For this reason, XtraView decoders need special RF ports and not all decoders can be used in an XtraView network.
- The RF cable carrying the "heartbeat" can also be used to carry video and audio as well as relayed remote commands.

What are the Primary and Secondary decoder roles?

In an XtraView network the primary decoder is the one which sends the "heartbeat" and the secondary is the one that needs to receive it in order to continue functioning. These roles need to be assigned when you activate the network. Both decoders need to be independently connected to the satellite and have their own activated smartcards.

There is no difference in the functionality of a decoder because it is a primary or a secondary decoder. There are however some important points to remember when deciding which decoder will be the primary and which one the secondary :

1. The SD PVR does not have the hardware capability to generate heartbeats (or relay remote commands), but it does have the capability of receiving it - so it can only serve as a secondary decoder.
2. The primary decoder will not lose services when the link between the decoders is broken. So if a decoder is to be taken on holiday, it should be selected as the primary.
3. A break in heartbeat for whatever reason, disables the secondary decoder, so to avoid losing recordings when you are not home, it is safer to use the HD PVR as primary.

About Remote modes

- In order to enable the control of multiple viewing environments, newer MultiChoice remotes all have more than one "TV" mode.
- The SD PVR has two viewing environments and its remote made provision for 4 players in each of the two modes – 1 A, B, C, & D and 2A, B, C, & D.
- As multiplayer applications are not envisaged in the near to mid-term future, this feature was dropped in the next generation of remote controls. The modes were reduced to TV1 and TV2 and a more robust remote language was introduced.
- The SD PVR is capable of listening to both the original SD PVR as well as the HD PVR remote. The HD PVR is only capable of listening to the HD PVR remote.
- Due to the possibility of having three XtraView viewing environments (using an SD and HD PVR) and for possible future expansion, the latest remotes make provision for four TV modes - 1, 2, 3 and 4. (*Note : Until decoder software is modified to acknowledge the 4 modes, the decoder will see modes 3 and 4 as duplicate TV1 & TV2's.*)
- Conflict between the viewing environments of the SD PVR and HD PVR can also be avoided by using the "SD Remote only" mode on the SD PVR.
- There is no fixed relationship between the primary and secondary status of the decoder and using the TV1 or TV2 remote mode. The remote modes *can be assigned the other way around.*

What are Relayed remote commands?

- XtraView capable decoders can relay or "pass-on" remote commands.
- In other words, if you have decoders in different rooms, you can watch and control content from the decoder in the other room without the need for a TV "eye" or remote blaster.
- This capability is set using the options in the XtraView menu.

What is Remote Relay and the TV eye (the TV "eye")

- A TV eye looks like this :



- It is used to control your decoder from another room.
- If you have 2 (or more) XtraView capable decoders and the decoders are in different rooms, you do not need a TV eye as the decoders are capable of relaying remote commands to each other if set-up correctly.
- XtraView is *not* needed to use a TV eye or the remote relay functionality.
- The TV eye is no longer included as a standard accessory with any of the MultiChoice decoders. TV eyes are however still available from MultiChoice agencies and branches as well as many retail stores.
- Remote Relay is only possible with the HD PVR, 1110 and newer remotes.
- A TV eye can relay remote commands from any remote.
- Remote Relayed commands can be sent and received with the RF OUT or RF IN ports – as long as the Communication Port setting in the XtraView menu is set correctly.
- On the SD PVR the TV (and heartbeat) receive circuitry is on the RF OUT port and it cannot be changed. In an XtraView installation the TV eye option in the TV Installation (SD PVR) menu must be active (On) for the decoder to receive a heartbeat signal.
- TV eye reception on current decoders is always on and it cannot be disabled. On these decoders, the TV eye setting only serves to power the TV eye (or an external amplifier).
- Note : The TV eye power is only available off the RF OUT port.

How can you view content from a decoder in another room?

- Because the decoders have to be joined using a normal RF cable, video services from one, or even both decoders can be sent through the cable at the same time as the heartbeat.
- This means that content from a decoder can be viewed and controlled in another room similar to TV2 on a Dual View decoder.
- In most XtraView installations it is possible to configure the network to share content from all decoders to all viewing environments.

Which decoders are XtraView Capable?

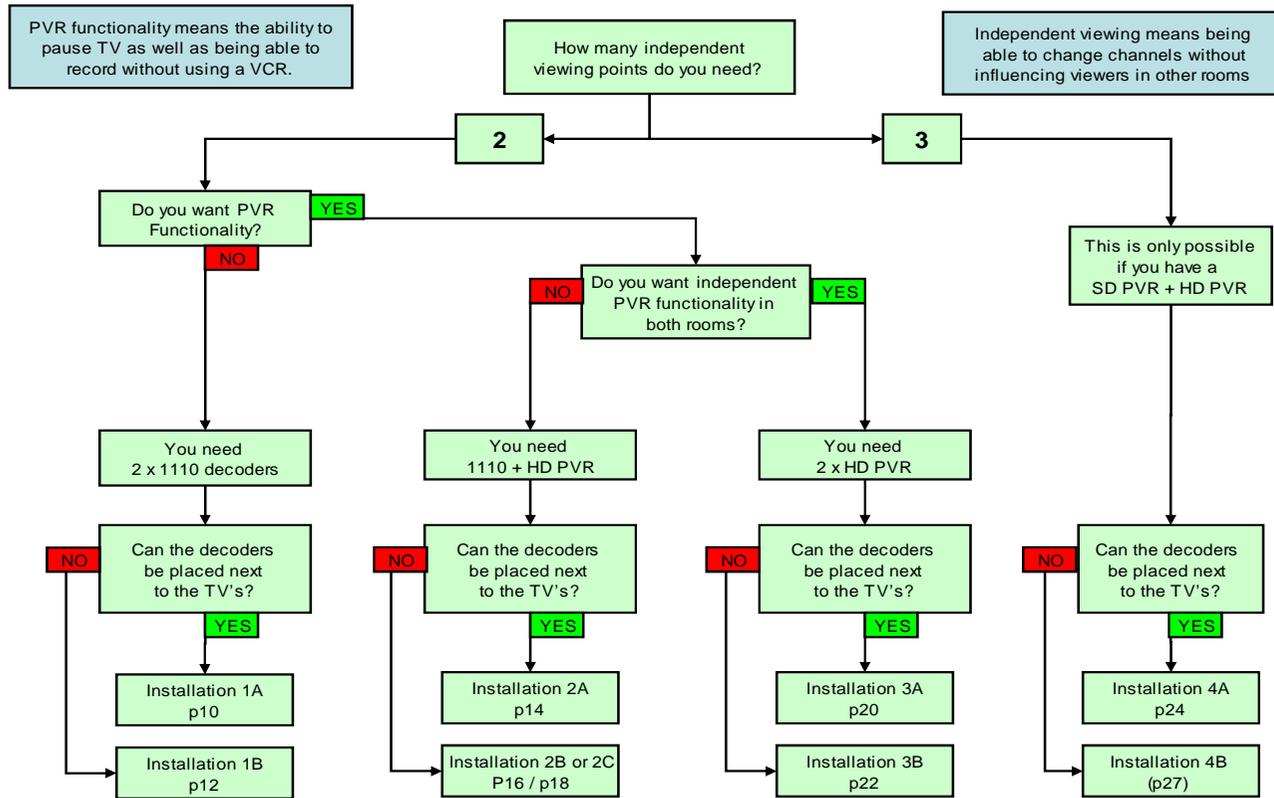
- Due to the RF tuner functionality required for XtraView (the ability to create or at least receive "heartbeats"), only newer decoders can be used in an XtraView network.
- The SD PVR can only be used as a secondary decoder (as it is only capable of receiving heartbeats).
- Allowed decoder combinations are :
 - 11xx + 11xx
 - 11xx+ HD PVR
 - HD PVR + 11xx
 - HD PVR + SD PVR
 - HD PVR + HD PVR

Programming the HD PVR remote to emulate the SD PVR remote

In rooms where access to both SD and HD PVR services are required and where the SD PVR has been set to only listen to the SD PVR remote, it might be handy to program one of the programmable modes on the HD PVR remote to emulate the SD PVR remote as that would eliminate the need to have two remotes to control the two PVRs. This is done in the following ways :

- **To program SD PVR TV1 into e.g. mode C:**
 - Turn dial to C
 - Press and hold SHIFT until mode window blinks 3 times
 - Enter 21589
 - It is now possible to control the SD PVR TV1 by using the "C" mode on the HD PVR remote.
- **To program SD PVR TV2 into e.g. mode D:**
 - Turn dial to D
 - Press and hold SHIFT until mode window blinks 3 times
 - Enter 21590
 - It is now possible to control the SD PVR TV2 by using the "D" mode on the HD PVR remote.

CHOOSING AN XTRAVIEW OPTION



The installation options as shown on these pages are not the only ones possible. These have been selected as providing the best balance between flexibility and simplicity.

EXPLANATION OF XTRAVIEW MENU ITEMS

The XtraView menu has been simplified for fully XtraView capable decoders in the latest software (not yet on the SD PVR). Depending on your decoder and its software version, you will have one of the following options:

First Generation software

“Communication Port”

- This setting indicates which port (RF IN or RF OUT) is connected to the cable that links to the other decoder. This is the port through which the heartbeat is sent or received.
- Any port can be used on the decoders as long as the actual installation & communication port option are the same. (Note that on the SD PVR this value is fixed to RF OUT and cannot be changed.)
- This is also the port from which Relayed remote commands will be sent (if applicable).
- Relayed remote commands are received off both ports – so the setting will not influence Relay reception.
- Note that on the SD PVR it is only possible to *receive* relayed commands and it is also only possible on the *RF OUT* port. (Relayed commands can sometimes be picked up via the RF IN port, but it is not advised as it incurs significant losses.)

“Remote Mode”

- This setting determines the remote mode that the decoder will react to.
- On the SD PVR the choice is “SD and HD Remote” or “SD Remote only”. When set to “SD remote only”, commands from the HD PVR or 1110 remotes are ignored.
- On the HD PVR and 1110, the chosen Remote Mode will determine the available choices for the next two settings : (Note that changing the remote mode at any time will set both these settings to “Off”)

“Relay Remote Commands”

- This determines if the decoder will relay remote commands to the network through the selected Communication Port.
- This basically enables the decoder to act like a TV “eye” *for the remote mode not being used by the decoder itself*.
- Note: Commands from the SD PVR remote cannot be relayed.

“Accept Relayed Commands”

This enables or disables the reception of commands from another decoder or TV eye.

TV eye / “tvLINK” Power

This setting is not found in the XtraView menu, but it is important to note the following :

- Power can only be supplied through the RF OUT port. Any externally powered equipment must therefore be connected through RF OUT if it is to make use of the TV eye power setting.
- On older software the TV eye tvLINK Power setting is greyed out when the Communications port is set to RF IN. As all decoder models may not have been upgraded by the time you read this, it is possible that you will not be able to use the tvLINK power and the RF IN port at the same time.
- For the SD PVR the TV eye setting **MUST BE ON** for XtraView to work.

Second Generation software

“Communication Port”

- This setting indicates which port (RF IN or RF OUT) is connected to the cable that links to the other decoder. This is the port through which the heartbeat is sent or received.
- Any port can be used on the decoders as long as the actual installation & communication port option are the same. (Note that on the SD PVR this value is fixed and cannot be changed.)
- This is also the port from which relayed remote commands will be sent (if applicable.)
- Relayed remote commands are received off both ports – so the setting does not influence Relay reception.

“Remote Mode”

This setting lists the 4 possible remote modes and allows the required action to be chosen :

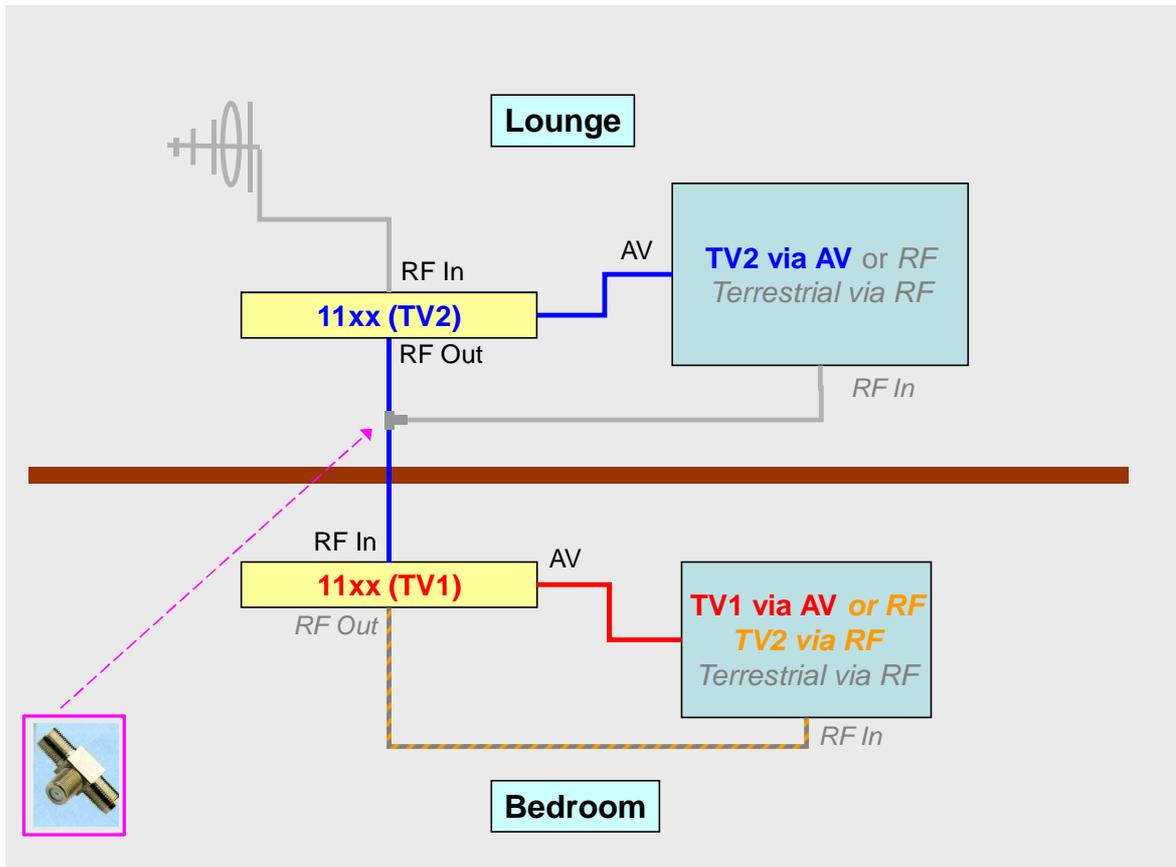
- Action : The decoder will react to this mode (regardless if it is received directly from a remote, or via RF from a TV eye or Relayed command).
- Ignore : The decoder will ignore to this mode (regardless if it is received directly from a remote, or via RF from a TV eye or Relayed command).
- Relay : The decoder will Relay this mode when received directly from a remote.

TV eye

This setting is not found in the XtraView menu and is only relevant for supplying power to external equipment like a TV eye or amplifier. Power can only be supplied through the RF OUT port. Any externally powered equipment must therefore be connected through RF OUT if it is to make use of the TV eye power setting.

INSTALLATION 1A (11XX + 11XX DECODERS IN SEPARATE ROOMS)

Note: Connections to the Satellite dish are not shown. See appendix A "LNB Installation Options" for options on connecting the decoders to the satellite dish.



Advantages

- Each room has totally independent access to all live MultiChoice services.
- Each room has access to the best possible picture and sound quality.
- It is possible to view / monitor and control TV2 services from the bedroom.
- TV1 is private and cannot be viewed from the lounge.

Disadvantages

- TV1 services cannot be viewed from the lounge.

Alternative: If the requirement is to allow all decoder outputs to be available everywhere, or to split the signal to more TVs (3rd, etc.), see installation 3A for a solution.

Notes

- Grey and orange items are optional and need only be included if that additional functionality is required.
- The banded line just indicates that the cable carries multiple signals.
- The default RF channel on at least one decoder will have to be changed.
- Purple lines and blocks indicate suggested components. For more information, see Appendix B – Splitting and Combining of Signals.

SETTINGS

Suggested Primary/ Secondary

There is no real technical reason to choose one over the other. Choose as primary the one on which you least want to lose viewing, or the one you intend taking with you on holiday.

Primary Settings

- Set "Communication Port" to RF IN
- Set "Remote Mode 1" to Accept
- Set "Remote Mode 2" to Relay
- Set "Remote Mode 3" to Ignore
- Set "Remote Mode 4" to Ignore

Secondary Settings

- Set "Communication Port" to RF OUT
- Set "Remote Mode 1" to Ignore
- Set "Remote Mode 2" to Accept
- Set "Remote Mode 3" to Ignore
- Set "Remote Mode 4" to Ignore

USING XTRAVIEW

Viewing terrestrial channels at any TV (optional)

- Just switch TV to the correctly tuned RF channel.

To view TV2 in the lounge

- Switch TV to AV.
- Use TV2 on the remote control.

To view TV1 in the bedroom

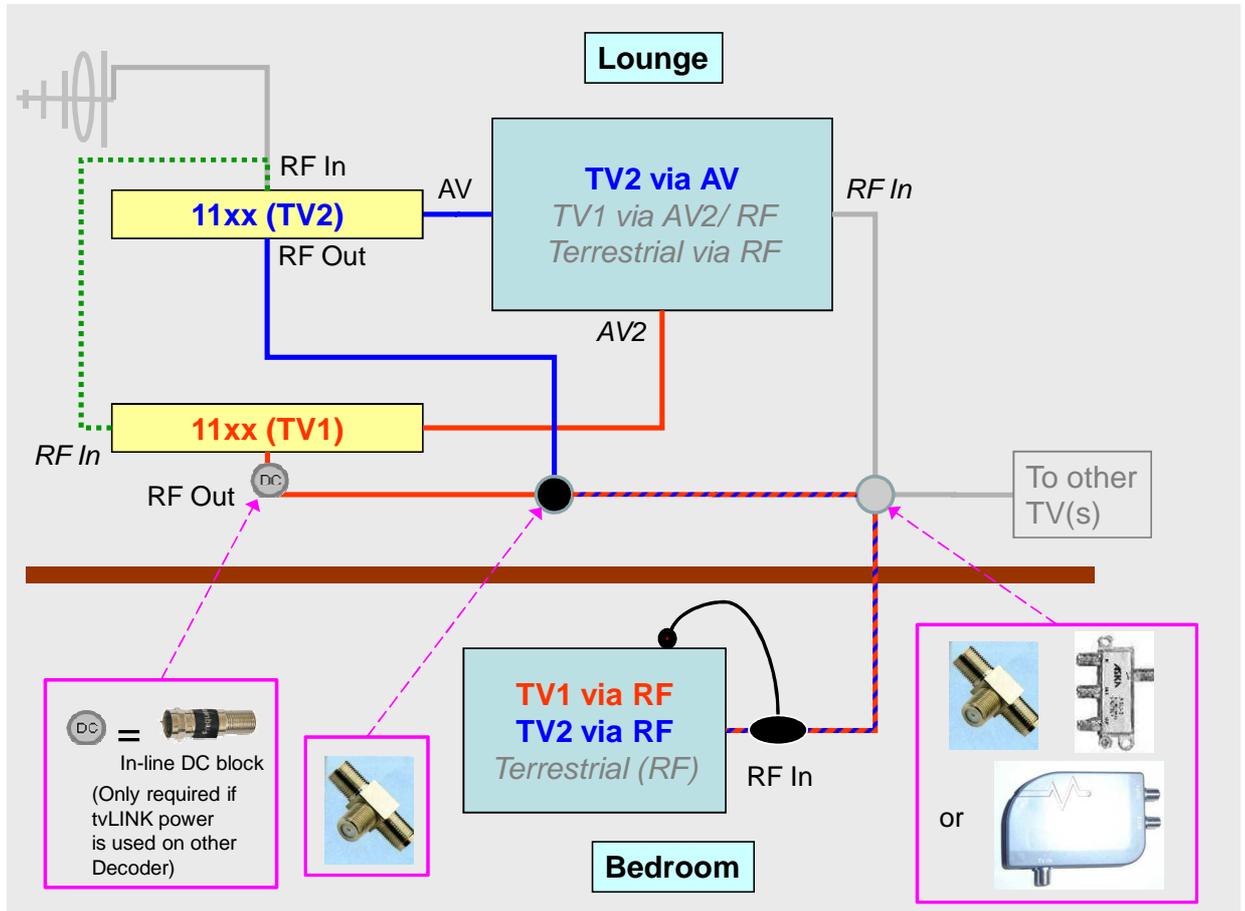
- Switch TV to AV.
- Use TV1 mode on the remote control.

To view TV2 in the bedroom (optional)

- Switch the TV to the channel tuned to receive the RF signal from the secondary (TV2) decoder.
- Use TV2 mode on the remote control. (The bedroom decoder will relay TV2 commands to the lounge decoder.)
- Note: Changing channels will affect viewing in the lounge.

INSTALLATION 1B (11XX + 11XX DECODERS IN THE SAME ROOM)

Note: Connections to the Satellite dish are not shown. See appendix A "LNB Installation Options" for options on connecting the decoders to the satellite dish.



Advantages

- Each room has access to all live MultiChoice services from either decoder.
- Bedroom installation requires just a single cable.

Disadvantages

- Bedroom viewing is restricted to RF (terrestrial analogue) quality video and mono audio.
- This installation requires a TV eye eye or a remote blaster (not included with the decoders) for relaying remote commands from the 2nd environment.

Notes

- The dark green dotted line indicates an alternative way of linking the decoders for the heartbeat. If a terrestrial antenna is not required, this would be the recommended way of connecting the decoders to ensure a trouble-free heartbeat.
- Grey items are optional and need only be included if that additional functionality is required.
- The default RF channel on at least one decoder will have to be changed.
- The banded line just indicates that the cable carries multiple signals.
- Purple lines and blocks indicate suggested components. For more information, see Appendix B – Splitting and Combining of Signals.

SETTINGS

Suggested Primary/ Secondary

There is no real technical reason to choose one over the other. Choose as primary the one on which you least want to lose viewing, or the one you intend taking with you on holiday.

Primary Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode 1" to Accept
- Set "Remote Mode 2" to Ignore
- Set "Remote Mode 3" to Ignore
- Set "Remote Mode 4" to Ignore

Secondary Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode 1" to Ignore
- Set "Remote Mode 2" to Accept
- Set "Remote Mode 3" to Ignore
- Set "Remote Mode 4" to Ignore
- Set TV eye to ON* This setting could alternatively be activated on the primary instead - as long as it is active on at least one decoder – in which case the DC block would then have to move to the secondary decoder. (*Only applicable if using a TV eye)
Note: On older software the TV eye setting is greyed out when the Communications port is set to RF IN. As all decoder models may not have been upgraded by the time you read this, it is possible that you will not be able to use the TV eye power and the RF IN port at the same time.

USING XTRAVIEW

Viewing terrestrial channels at any TV (optional)

- Just switch TV to the correctly tuned RF channel.

To view TV2 in the lounge

- Switch TV to AV.
- Use TV2 mode on the remote control.

To view TV1 in the lounge

- Switch TV to AV2/ RF.
- Use TV1 mode on the remote control.

To view TV1 in the bedroom (or other TVs)

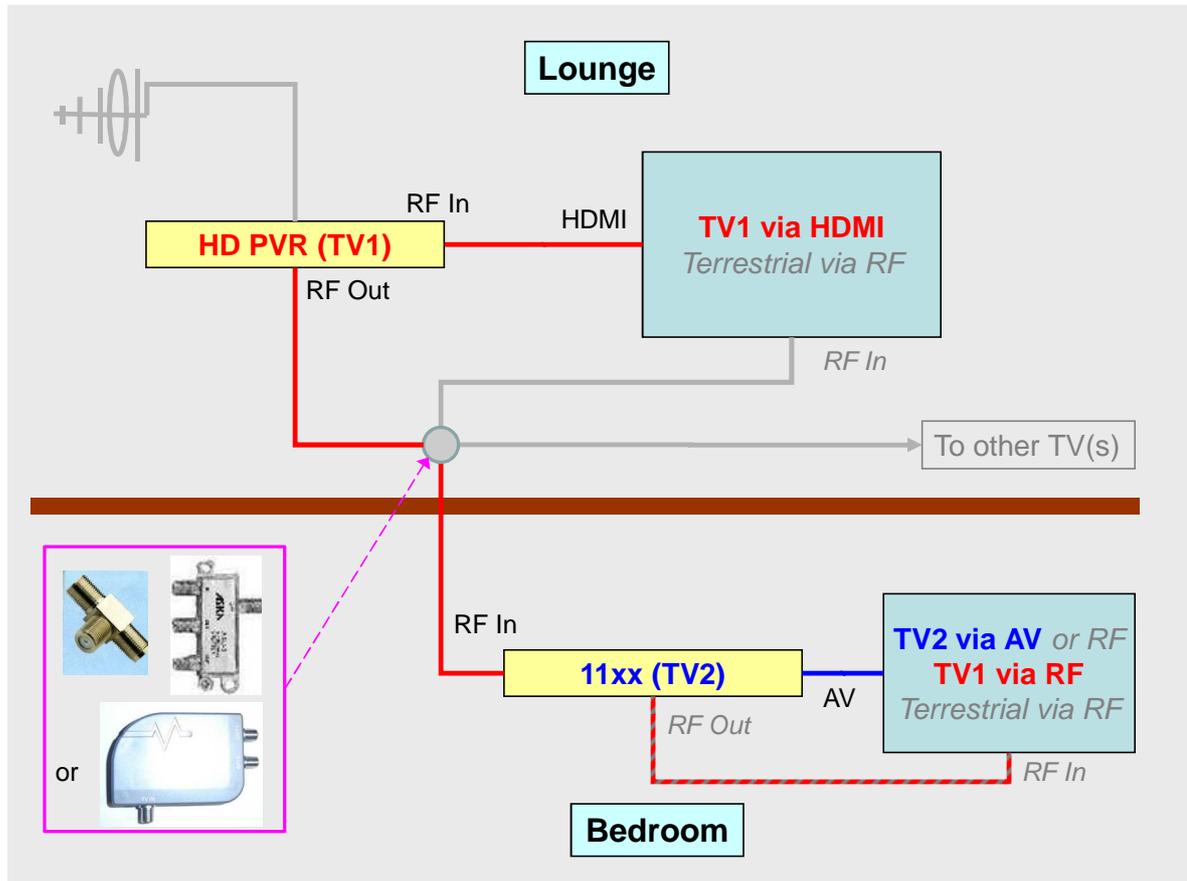
- Switch the TV to the channel tuned to receive the RF signal from the primary (TV1) decoder.
- Use TV1 mode on the remote control. (TV eye or Remote blaster will relay the commands to the decoders).
- Note: Changing channels may affect viewing in the lounge.

To view TV2 in the bedroom (or other TVs):

- Switch the TV to the channel tuned to receive the RF signal from the secondary (TV2) decoder.
- Use TV2 mode on the remote control (TV eye or Remote blaster will relay the commands to the decoders.)
- Note: Changing channels may affect viewing in the lounge.

INSTALLATION 2A (HD PVR + 11XX DECODER IN SEPARATE ROOMS)

Note: Connections to the Satellite dish are not shown. See appendix A "LNB Installation Options" for options on connecting the decoders to the satellite dish.



Advantages

- Each room has totally independent access to all live MultiChoice services.
- Each room has access to the best possible picture and sound quality.
- It is possible to access HD PVR (TV1) services from the bedroom.
- TV2 is private and cannot be viewed from the lounge.

Disadvantages

- TV2 services cannot be viewed from the lounge.
- Only TV1 (HD PVR) services can be viewed on a 3rd TV.

Alternative: If the requirement is to allow all decoder outputs to be available everywhere, see installation 3A for a solution.

Notes

- Grey items are optional and need only be included if that additional functionality is required.
- The banded line just indicates that the cable carries multiple signals.
- The default RF channel on at least one decoder will have to be changed.
- The decoders can be swapped around (i.e. PVR in bedroom and 11xx in lounge)
- Purple lines and blocks indicate suggested components. For more information, see Appendix B – Splitting and Combining of Signals.

SETTINGS

Suggested Primary/ Secondary

It is suggested that the HD PVR is used as the primary – it prevents any recordings from being lost due to any possible failure of the link between the decoders and also enables you to take the PVR (and all its recorded content) with you on holiday.

Primary Settings

- Set "Communication Port" to RF OUT
- Set "Remote Mode" to TV1
- Set "Relay Remote Commands" to OFF
- Set "Accept Relayed Commands" to ON

Secondary Settings

- Set "Communication Port" to RF IN
- Set "Remote Mode 1" to Relay
- Set "Remote Mode 2" to Accept
- Set "Remote Mode 3" to Ignore
- Set "Remote Mode 4" to Ignore

USING XTRAVIEW

Viewing terrestrial channels at any TV (Optional)

- Just switch TV to the correctly tuned RF channel.

To view TV1 in the lounge

- Switch TV to HDMI.
- Use TV1 mode on the remote control.

To view TV2 in the bedroom (or other TVs)

- Switch TV to AV.
- Use TV2 mode on the remote control.

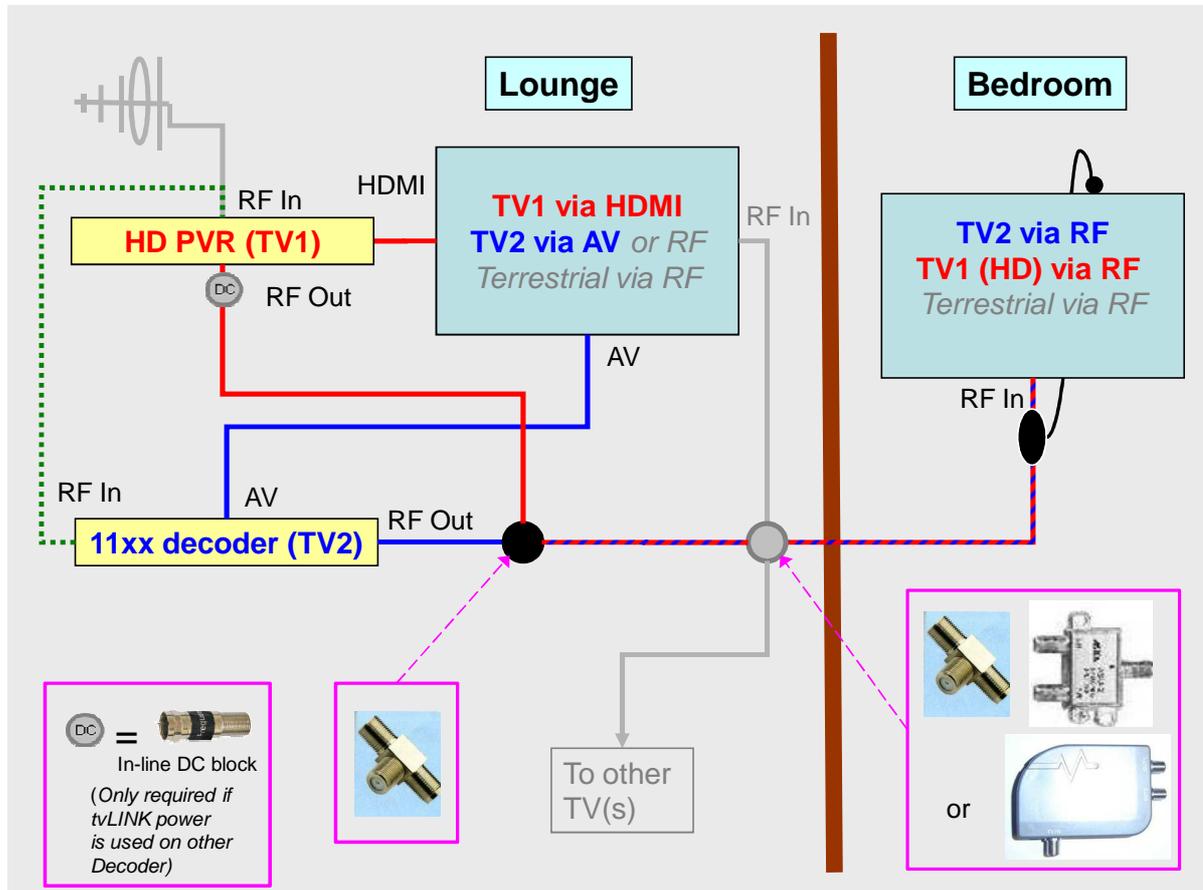
To view TV1 in the bedroom (or other TVs) (optional):

- Switch the TV to the channel tuned to receive the RF signal from the HD PVR decoder.
- Use TV1 mode on the remote control.

Note: Changing channels will affect viewing in the lounge

INSTALLATION 2B (HD PVR + 11XX DECODER IN THE SAME ROOM)

Note: Connections to the Satellite dish are not shown. See appendix A "LNB Installation Options" for options on connecting the decoders to the satellite dish.



Advantages

- Each room has totally independent access to all live MultiChoice services.
- Only a single cable is required to the 2nd room.
- PVR services can be viewed and controlled from the bedroom as well.

Disadvantages

- The bedroom will be able to view RF (terrestrial analogue) quality video and mono audio only.
- This installation requires a TV eye or a remote blaster (not included with the decoders) for relaying remote commands from the 2nd environment.

Notes

- The dark green dotted line indicates an alternative way of linking the decoders for the heartbeat. If a terrestrial antenna is not required, this would be the recommended way of connecting the decoders to ensure a trouble-free heartbeat.
- All grey items are optional and need only be included if that additional functionality is required.
- The default RF channel on at least one decoder will have to be changed.
- The banded line just indicates that the cable carries multiple signals.
- Purple lines and blocks indicate suggested components. For more information, see Appendix B – Splitting and Combining of Signals.

SETTINGS

Suggested Primary/ Secondary

It is suggested that the HD PVR is used as the primary – it prevents any recordings from being lost due to any possible failure of the link between the decoders and also enables you to take the PVR (and all its recorded content) with you on holiday.

Primary Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode" to TV1
- Set "Relay Remote Commands" to OFF
- Set "Accept Relayed Commands" to ON*

Secondary Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode 1" to Ignore
- Set "Remote Mode 2" to Accept
- Set "Remote Mode 3" to Ignore
- Set "Remote Mode 4" to Ignore

* Applicable if a TV eye is used. If so, one of the decoders must also have its TV eye setting switched ON in order to power the TV eye in the 2nd room.

USING XTRAVIEW

Viewing terrestrial channels at any TV (Optional)

- Just switch TV to the correctly tuned RF channel.

To view TV1 in the lounge

- Switch TV to HDMI.
- Use TV1 mode on the remote control.

To view TV2 in the lounge (Optional)

- Switch TV to AV.
- Use TV2 mode on the remote control.

To view TV1 in the bedroom (or other TVs)

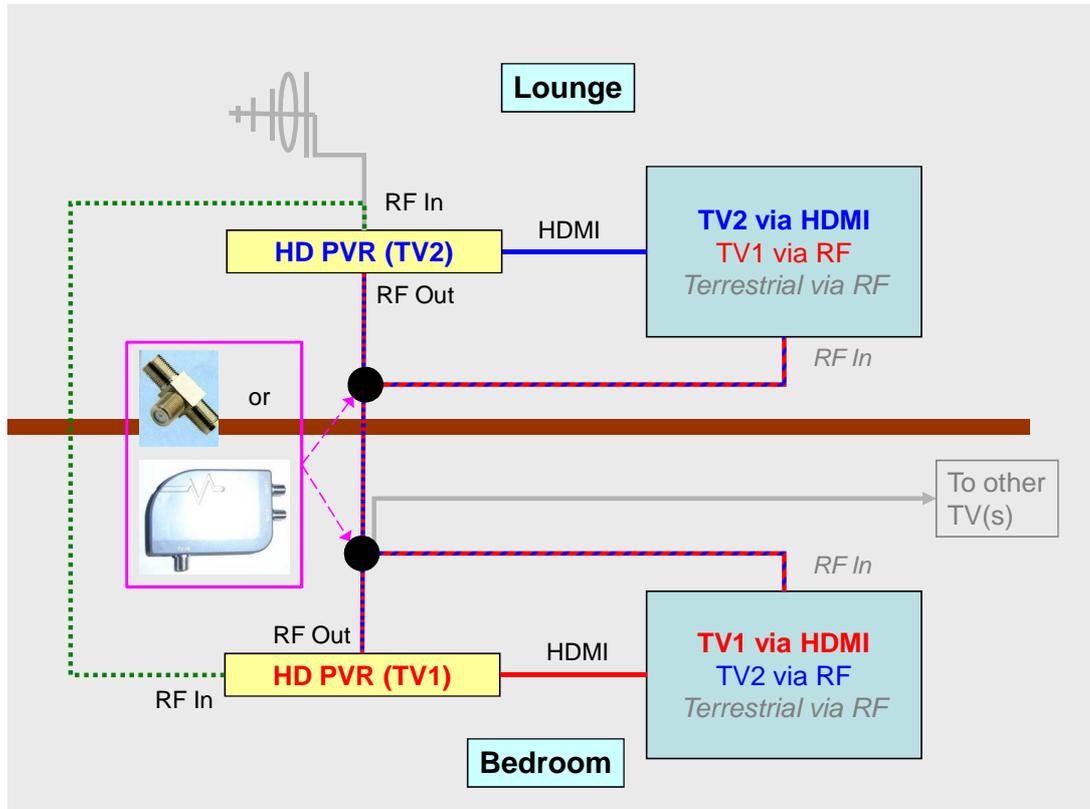
- Switch TV to the RF channel tuned to the TV1 decoder.
- Use TV1 mode on the remote control (TV eye or Remote blaster will relay the commands to the decoders)

To view TV2 in the bedroom (or other TVs)

- Switch TV to the RF channel tuned to the TV2 decoder.
- Use TV2 mode on the remote control (TV eye or Remote blaster will relay the commands to the decoders)

INSTALLATION 3A (HD PVR + HD PVR IN SEPARATE ROOMS)

Note: Connections to the Satellite dish are not shown. See appendix A "LNB Installation Options" for options on connecting the decoders to the satellite dish.



Advantages

- Each room has totally independent access to all MultiChoice services with PVR functionality.
- Each room has access to the best possible picture and sound quality.
- It is possible to view/ monitor and control all services from the either room.
- A combined total of up to 300 hours of recorded content is accessible from both rooms.

Disadvantages

- Content from the PVR "in the other room" is only available in RF quality.
- Watching content from the PVR "in the other room" will affect any viewing in that room.

Notes

- The dark green dotted line indicates an alternative way of linking the decoders for the heartbeat. If a terrestrial antenna is not required and an additional cable is no issue, this would be the recommended way of connecting the decoders to ensure a trouble-free heartbeat (and relay of remote commands).
- Grey items are optional and need only be included if that functionality is required.
- The banded line just indicates that the cable carries multiple signals.
- The default RF channel on at least one decoder will have to be changed.
- Purple lines and blocks indicate suggested components. For more information, see Appendix B – Splitting and Combining of Signals.

SETTINGS

Suggested Primary/ Secondary

There is no real technical reason to choose one over the other. Choose as primary the one on which you least want to lose viewing, or the one you intend taking with you on holiday.

TV1 Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode" to TV1
- Set "Relay Remote Commands" to ON
- Set "Accept Relayed Commands" to ON

TV2 Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode" to TV2
- Set "Relay Remote Commands" to ON
- Set "Accept Relayed Commands" to ON

USING XTRAVIEW

Viewing terrestrial channels at any TV (Optional)

- Just switch the TV to the correctly tuned RF channel.

To view TV1 in the lounge

- Switch TV to RF channel tuned to the TV1 PVR.
- Use TV1 mode on the remote control. (The local decoder will relay the remote command) Note: This will affect any viewing in the bedroom.

To view TV2 in the lounge

- Switch TV to the HDMI input.
- Use TV2 mode on the remote control.

To view TV1 in the bedroom

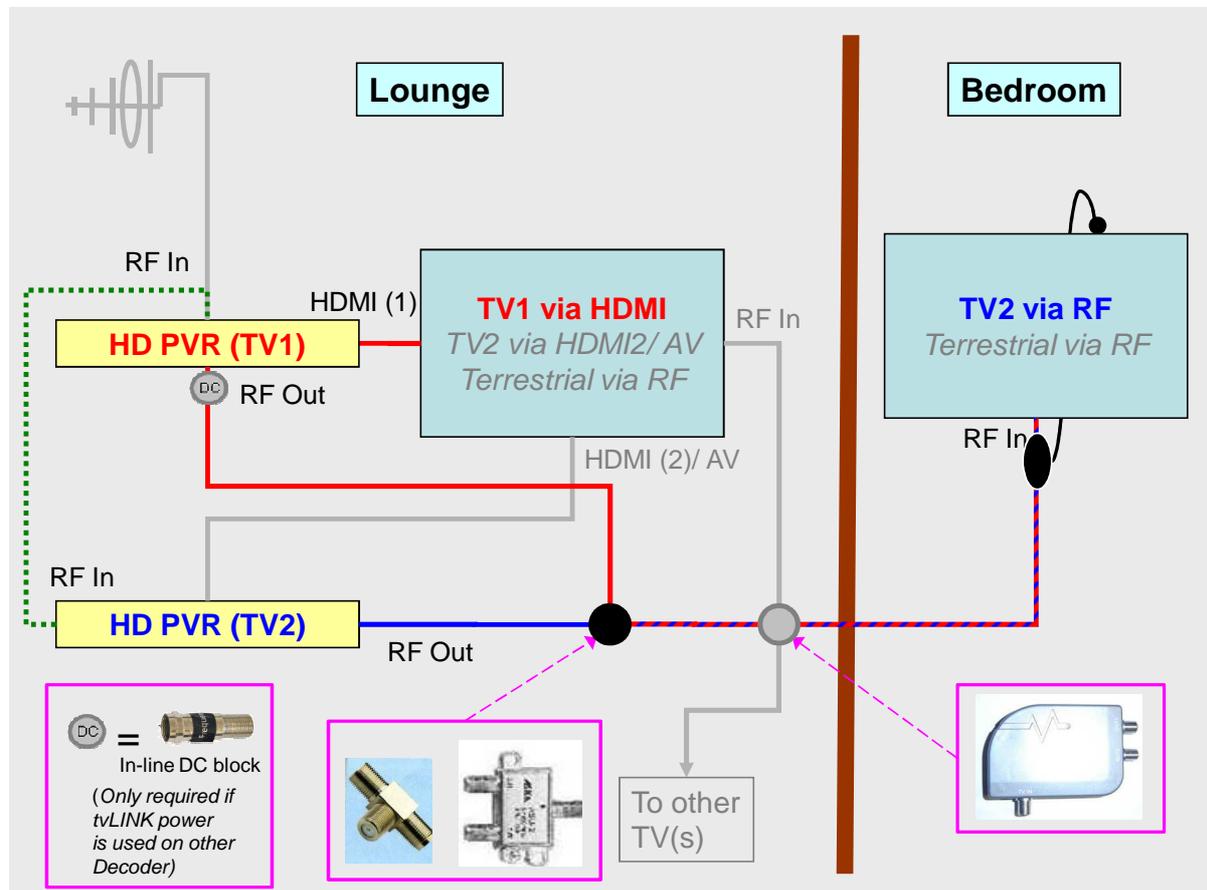
- Switch TV to the HDMI input.
- Use TV1 mode on the remote control

To view TV2 in the bedroom

- Switch TV to RF channel tuned to the TV2 PVR.
- Use TV2 mode on the remote control. (The decoder will relay the remote command.) Note: This will affect any viewing in the lounge.

INSTALLATION 3B (HD PVR + HD PVR IN THE SAME ROOM)

Note: Connections to the Satellite dish are not shown. See appendix A "LNB Installation Options" for options on connecting the decoders to the satellite dish.



Advantages

- Each room has totally independent access to all live MultiChoice services with PVR functionality.
- Only a single cable required to the bedroom.

Disadvantages

- HDTV services can only be viewed in standard resolution and terrestrial signal quality (RF quality video and mono audio) in the bedroom.
- A TV eye or remote blaster (neither is supplied with the decoders) is required for controlling viewing from the 2nd room.

Notes

- If the home layout allows, wireless AV blasters to far points can also be considered. Although costly, video quality may be better than using RF cable.
- All grey items are optional and need only be included if that additional functionality is required.
- The default RF channel on at least one decoder will have to be changed.
- The banded line just indicates that the cable carries multiple signals.
- Purple lines and blocks indicate suggested components. For more information, see Appendix B – Splitting and Combining of Signals.

SETTINGS

Suggested Primary/ Secondary

There is no real technical reason to choose one over the other. Choose as primary the one on which you least want to lose viewing, or the one you intend taking with you on holiday.

TV1 Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode" to TV1
- Set "Relay Remote Commands" to OFF
- Set "Accept Relayed Commands" to ON*

TV2 Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode" to TV2
- Set "Relay Remote Commands" to OFF
- Set "Accept Relayed Commands" to ON*

* Only applicable if a TV eye is used. If so, one of the decoders must also have its TV eye setting switched ON in order to power the TV eye in the 2nd room.

USING XTRAVIEW

Viewing terrestrial channels at any TV (Optional)

- Just switch TV to the correctly tuned RF channel.

To view TV1 in the lounge

- Switch TV to HDMI.
- Use TV1 mode on the remote control.

To view TV2 in the lounge

- Switch TV to HDMI 2, AV or RF (depending on how it is connected).
- Use TV2 mode on the remote control.

To view TV1 in the bedroom

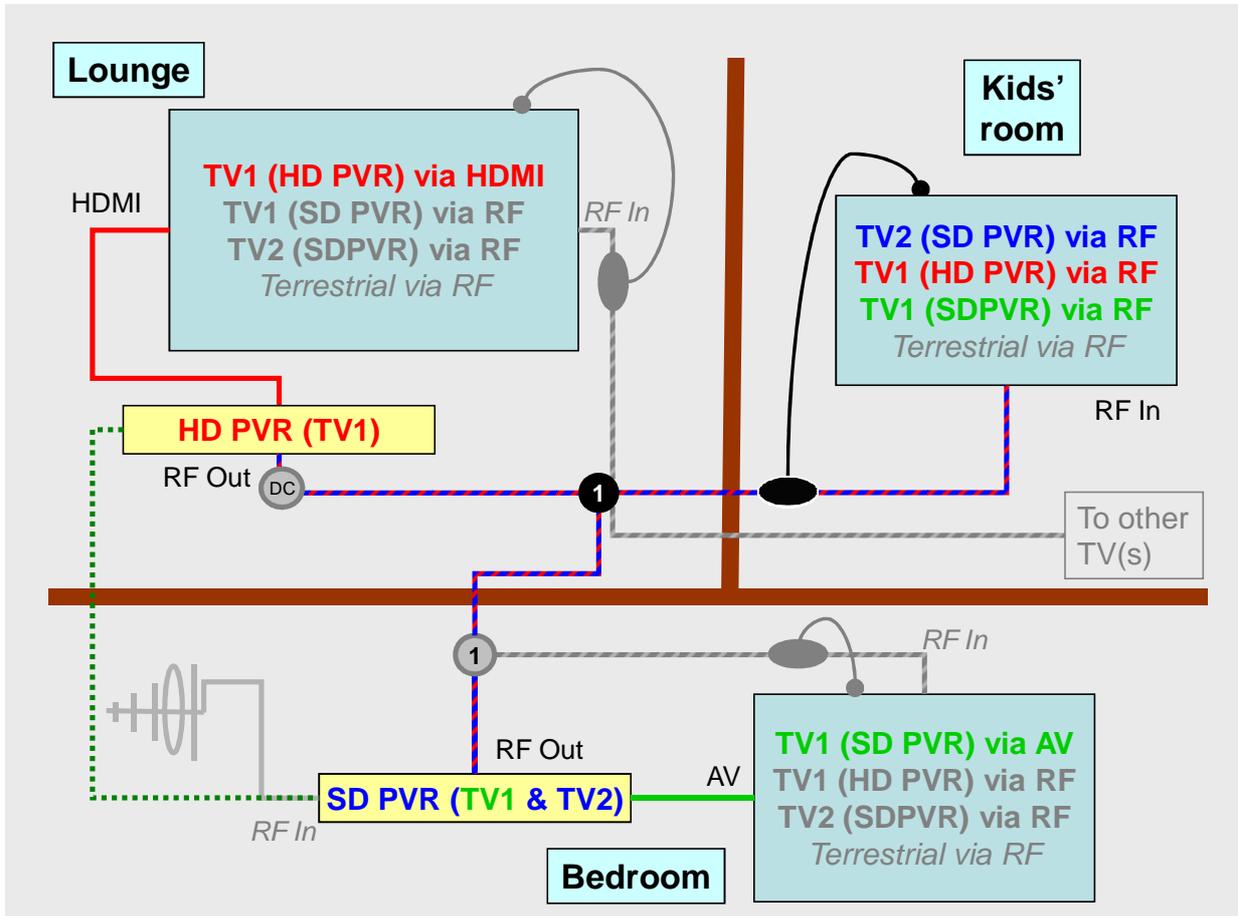
- Switch TV to the RF channel tuned to the TV1 PVR.
- Use TV1 mode on the remote control. (TV eye or remote blaster will relay the commands)

To view TV2 in the bedroom

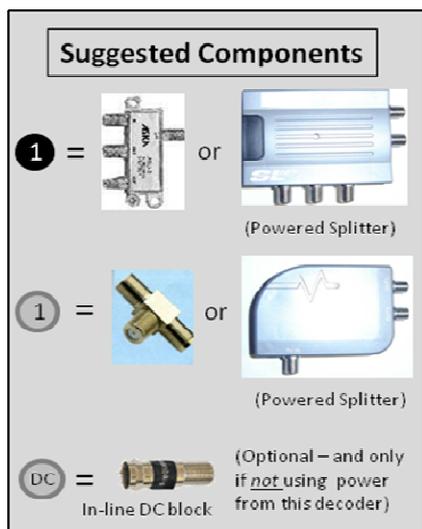
- Switch TV to the RF channel tuned to the TV2 PVR.
- Use TV2 mode on the remote control. (TV eye or remote blaster will relay the commands)

INSTALLATION 4A (HD PVR + SD PVR IN SEPARATE ROOMS)

Note: Connections to the Satellite dish are not shown. See appendix A "LNB Installation Options" for options on connecting the decoders to the satellite dish.



Note: Grey items are optional



Note: For more information on distributing the signal, see Appendix B – Splitting and Combining of Signals.

Advantages

- Three rooms with totally independent access including PVR functionality to all MultiChoice services.
- Optimum viewing experience possible in two rooms.
- HD and SD PVR recorded content can be accessed from all TVs.

Disadvantages

- To avoid clashes in remote control commands, the SD PVR has to be set to listen to the SD PVR remote only. The HD PVR only listens to the HD PVR remote. This means that two remotes (one for SD and one HD) are required in rooms where access is required to both PVR's. (Note: The HD PVR remote can emulate the SD PVR, (see page 5) - so a properly programmed HD PVR remote can also be used instead of two remotes).
- Additional TV eyes and HD remotes may have to be purchased.

Notes

- The dark green dotted line indicates an alternative way of linking the decoders for the heartbeat. If a terrestrial antenna is not required and an additional cable is no issue, this could be used to connect the decoders. There is attenuation at the SD PVR side as the heartbeat has to pass through the RF tuner to get from RF IN to RF OUT where it can be detected, but depending on the complexity and components used in the rest of the system, it may result in a more reliable heartbeat (and relay of remote commands).
- All grey items are optional and need only be included if that additional functionality is required.
- The default RF channel setting on at least one decoder will have to be changed.
- The striped lines are still single cables - the different colours just indicate that multiple channels are carried in that cable.
- The same functionality may be obtainable using a combination of remote / AV blasters. Consult your local remote/ AV blaster salesperson for a solution.

SETTINGS

Suggested Primary/ Secondary

The HD PVR decoder has to be the primary due a hardware limitation on the SD PVR.

HD PVR Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode" to TV1
- Set "Relay Remote Commands" to OFF
- Set "Accept Relayed Commands" to TV1

SD PVR Settings

- Set "Remote Mode" to "SD Remote only"
- TV eye setting must be ENABLED.

USING XTRAVIEW

Viewing terrestrial channels at any TV (Optional)

- Just switch the TV to the correctly tuned RF channel.

To view TV1 (HD PVR) in the lounge

- Switch TV to HDMI.
- Use TV1 mode on the HD PVR remote control.

To view TV2 or TV1 (from the SD PVR) in the lounge

- Switch TV to the RF channel tuned to the TV1 or TV2 services of the SD PVR.
- Use 2A, B, C or D (for TV2) or 1A, B, C or D (for TV1) on the SD PVR remote control. Commands go to SD PVR via the TV eye.

To view TV1 (SD PVR) in the bedroom

- Switch TV to AV.
- Use TV1 mode (1A, B, C or D) on the SD PVR remote control.

To view TV1 (HD PVR) in the bedroom (optional)

- Switch TV to the RF channel tuned to the HD PVR.
- Use the TV1 mode on a HD PVR remote control. (TV eye will transfer commands to the HD PVR).

To view TV2 (SD PVR) in the bedroom

- Switch TV to AV2 (if available) or the RF channel tuned to the TV2 services of the SD PVR.
- Use TV2 mode (2A, B, C or D) on the SD PVR remote on the SD PVR remote control.

To view TV2 (SD PVR) in the kids' room

- Switch TV to the RF channel tuned to the TV2 services of the SD PVR.
- Use TV2 mode (2A, B, C or D) on the SD PVR remote on the SD PVR remote control. (TV eye will relay the commands.)

To view TV1 (HD PVR) in the kids' room

- Switch TV to the RF channel tuned to the HD PVR.
- Use TV1 mode on a HD PVR remote. (TV eye will relay the commands.)

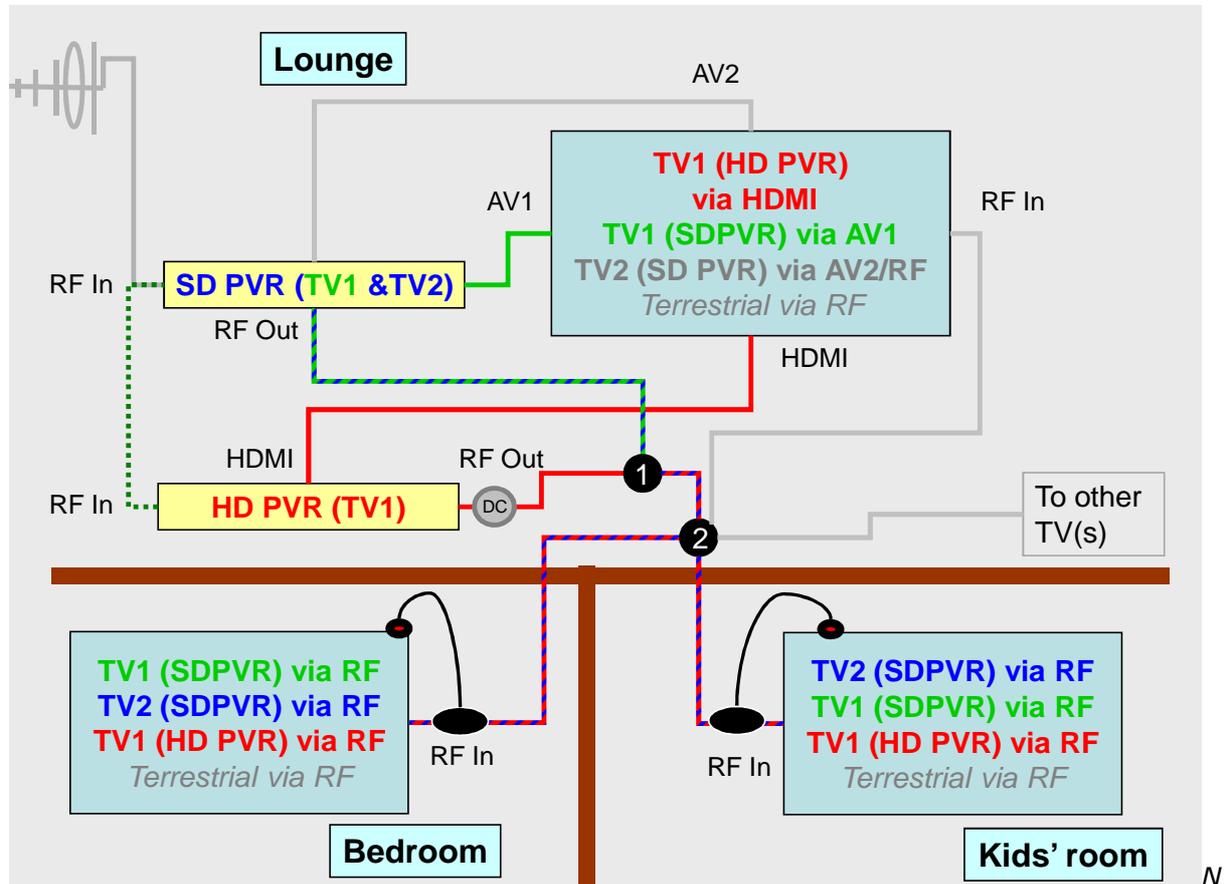
To view TV1 (SD PVR) in the kids' room

- Switch TV to the RF channel tuned to the TV1 services of the SD PVR.
- Use TV1 mode (1A, B, C or D) on the SD PVR remote on the remote control. (TV eye will relay the commands.)

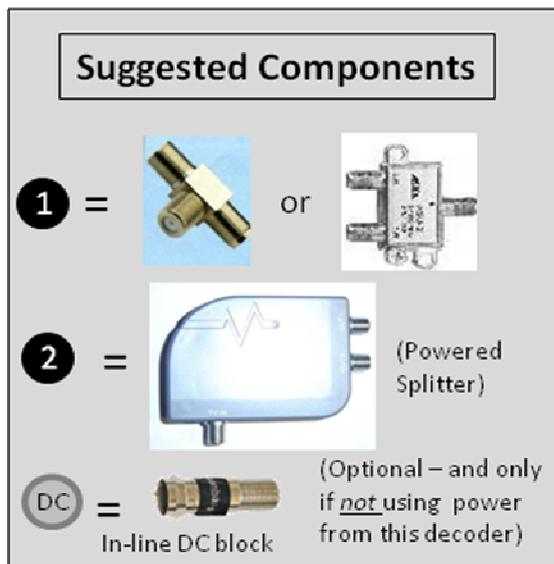
Remember that the HD PVR remote can be programmed to emulate the SD PVR remote. (see page 5).

INSTALLATION 4B (HD PVR + SD PVR IN THE SAME ROOM)

Note: Connections to the Satellite dish are not shown. See appendix A "LNB Installation Options" for options on connecting the decoders to the satellite dish.



Note: Grey items are optional



Note: For more information on distributing the signal, see Appendix B – Splitting and Combining of Signals.

Advantages

- Three rooms with totally independent access including PVR functionality to all MultiChoice services.
- HD and SD PVR recorded content can be accessed from all TVs.

Disadvantages

- To avoid clashes in remote control commands, the SD PVR has to be set to listen to the SD PVR remote only. The HD PVR only listens to the HD PVR remote. This means that two remotes (one for SD and one HD) are required in rooms where access is required to both PVRs. (Note: The HD PVR remote can emulate the SD PVR, (see page 5) - so a properly programmed HD PVR remote can also be used instead of two remotes)
- Viewing at 2nd and 3rd points is restricted to RF (terrestrial analogue) quality video and mono audio.
- Additional TV eyes and HD remotes may have to be purchased

Notes

- The dark green dotted line indicates an alternative way of linking the decoders for the heartbeat. If a terrestrial antenna is not required and an additional cable is no issue, this could be used to connect the decoders. There is attenuation at the SD PVR side as the heartbeat has to pass through the RF tuner to get from RF IN to RF OUT where it can be detected, but depending on the complexity and components used in the rest of the system, it may result in a more reliable heartbeat (and relay of remote commands).
- All grey items are optional and need only be included if that additional functionality is required.
- The default RF channel setting on at least one decoder will have to be changed.
- The striped lines are still single cables - the different colours just indicate that multiple channels are carried in that cable.
- The same functionality may be obtainable using a combination of remote / AV blasters. Consult your local remote/ AV blaster salesperson for a solution.

SETTINGS

Suggested Primary/ Secondary

The HD PVR decoder has to be the primary due a hardware limitation on the SD PVR.

HD PVR Settings

- Set "Communication Port" to RF OUT (If using the optional connection, set to RF IN)
- Set "Remote Mode" to TV1
- Set "Relay Remote Commands" to OFF
- Set "Accept Relayed Commands" to TV1

SD PVR Settings

- Set "Remote Mode" to "SD Remote only"
- TV eye setting must be ENABLED.

USING XTRAVIEW

Viewing terrestrial channels at any TV (Optional)

- Just switch TV to the correctly tuned RF channel.

To view TV1 (HD PVR) in the lounge

- Switch TV to HDMI.
- Use TV1 mode on the HD PVR remote control.

To view TV1 (SD PVR) in the lounge

- Switch TV to AV1.
- Use TV1 (1A, B, C or D) on the SD PVR remote control*.

To view TV2 (SD PVR) in the lounge

- Switch TV to AV2 or the appropriate RF channel.
- Use TV2 (2A, B, C or D) on the SD PVR remote control*.

To view TV1 (SD PVR) in the bedroom or kids' room

- Switch TV to the RF channel tuned to TV1 on the SD PVR.
- Use TV1 (1A, B, C or D) mode on the SD PVR remote. (TV eye will relay the commands.)

To view TV2 (SD PVR) in the bedroom or kids' room

- Switch TV to the RF channel tuned to TV2 on the SD PVR.
- Use TV2 (2A, B, C or D) mode on the SD PVR remote. (TV eye will relay the commands.)

To view HD PVR in the bedroom or kids' room

- Switch TV to the RF channel tuned to the HD PVR.
- Use TV1 mode on the HD PVR remote. (TV eye will relay the commands.)

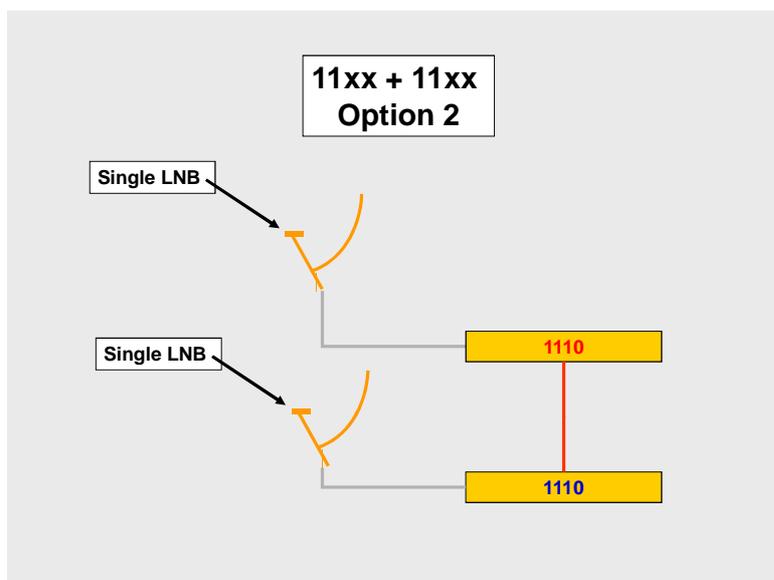
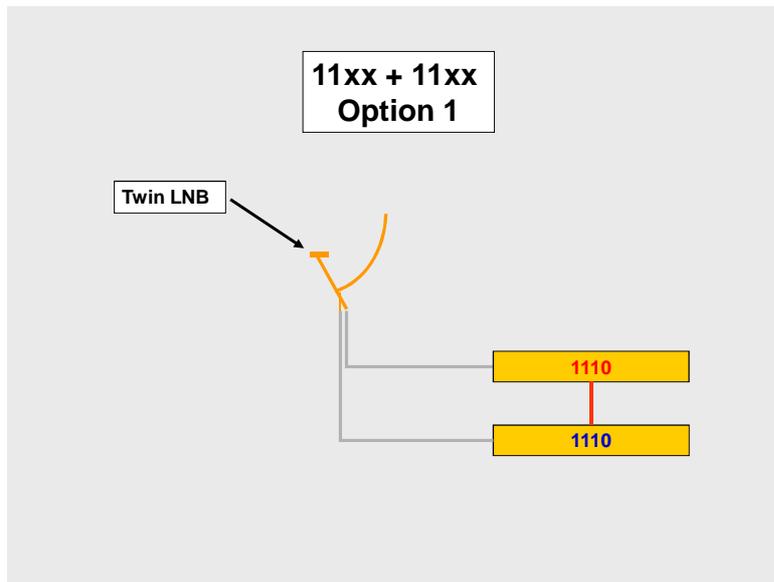
**Remember that the HD PVR remote can be programmed to emulate the SD PVR remote. (see page 5).*

APPENDIX A : LNB INSTALLATION OPTIONS (FOR XTRAVIEW COMBOS)

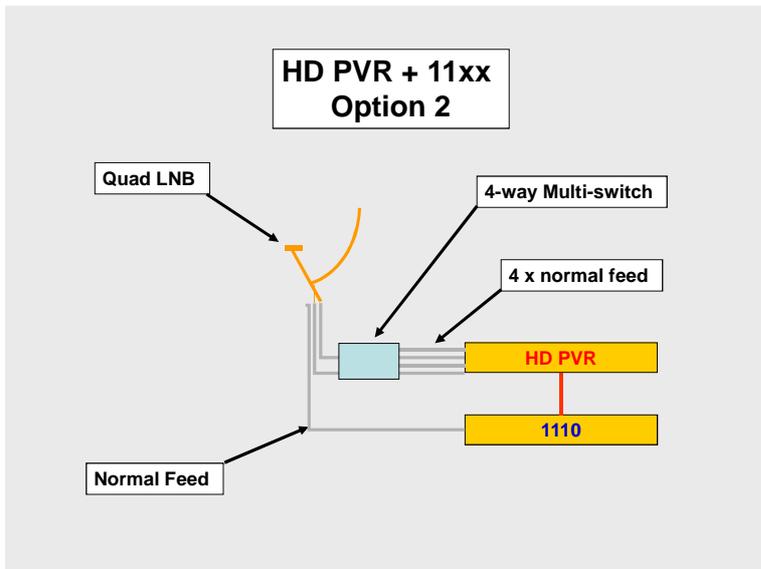
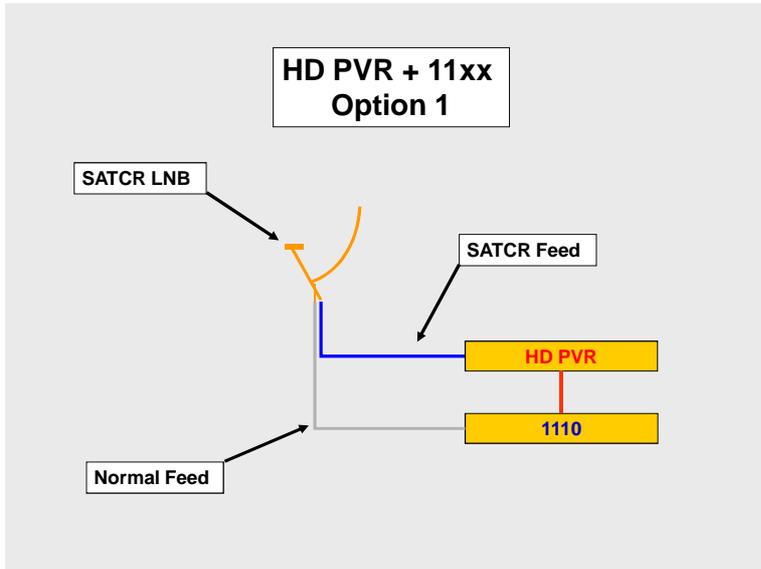
Keep in mind

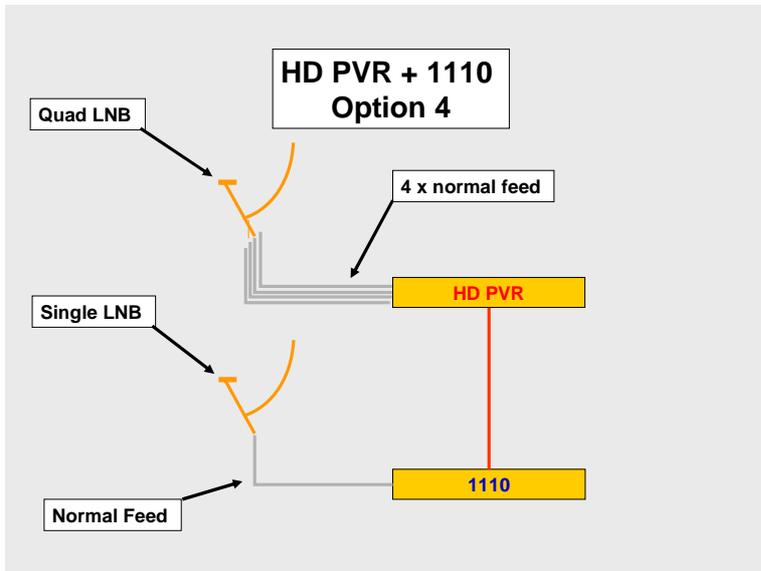
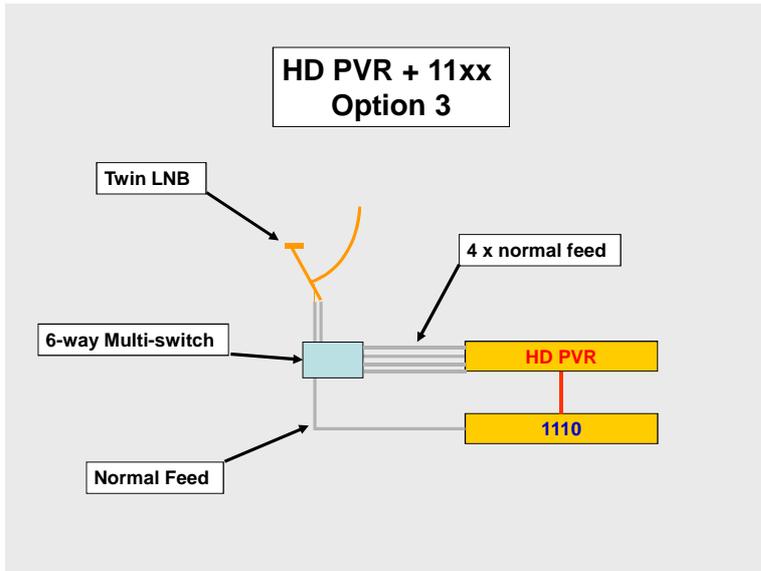
- Conduits are only able to carry 2-3 runs of RG6U or 5 runs of Pro5 5mm cable.
- Terrestrial cable could be used to carry both satellite and terrestrial signals by splitting/combining them.
- Using passive multi-switches the cable runs from the switch should not exceed 35-40m, as polarity switching could become a problem.
- Active multi-switches (internal power supply) work better and have less signal losses.
- 90cm dishes are strongly recommended - especially when using multi-switches.

11xx + 11xx

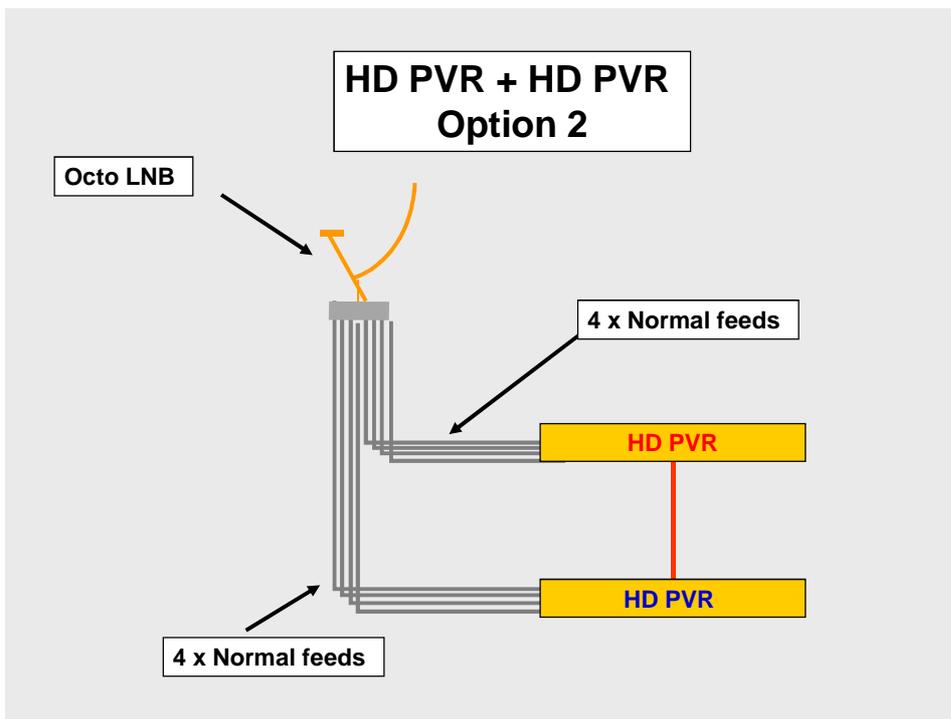
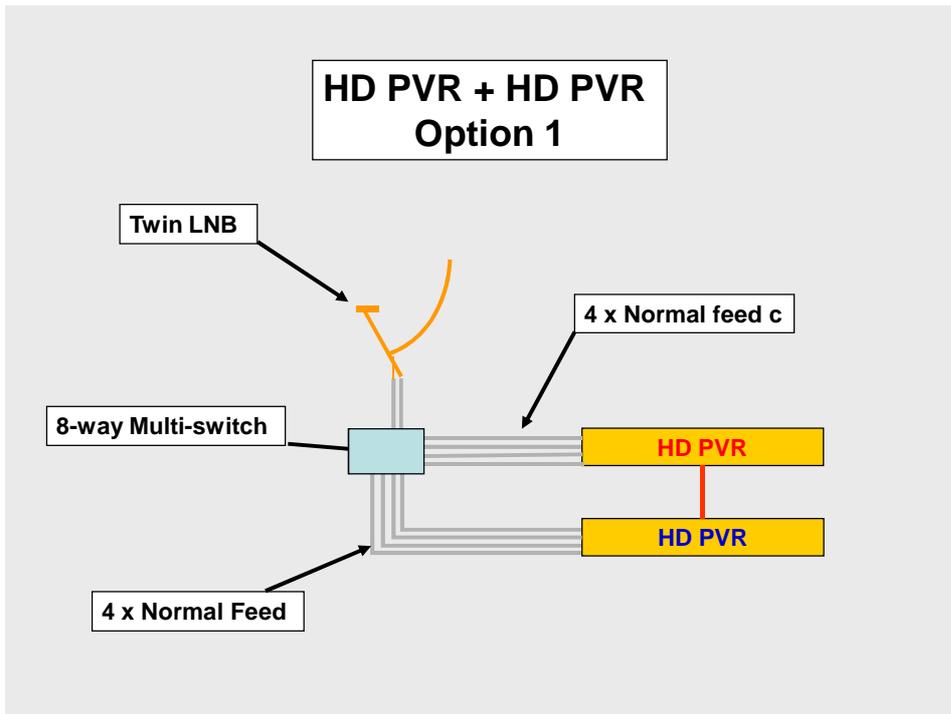


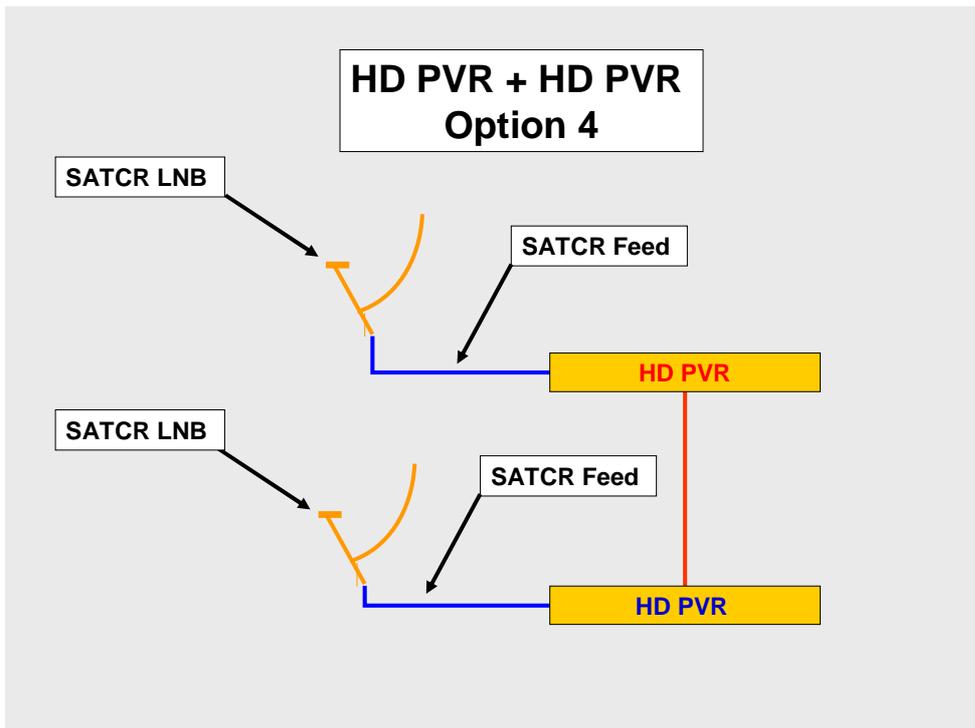
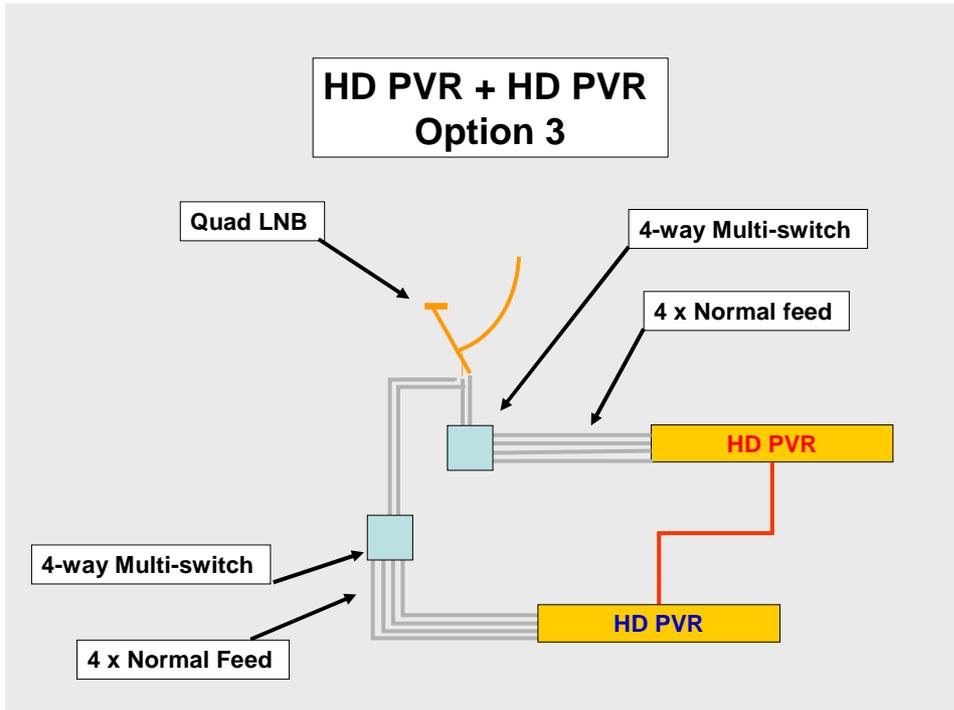
HD PVR + 11xx





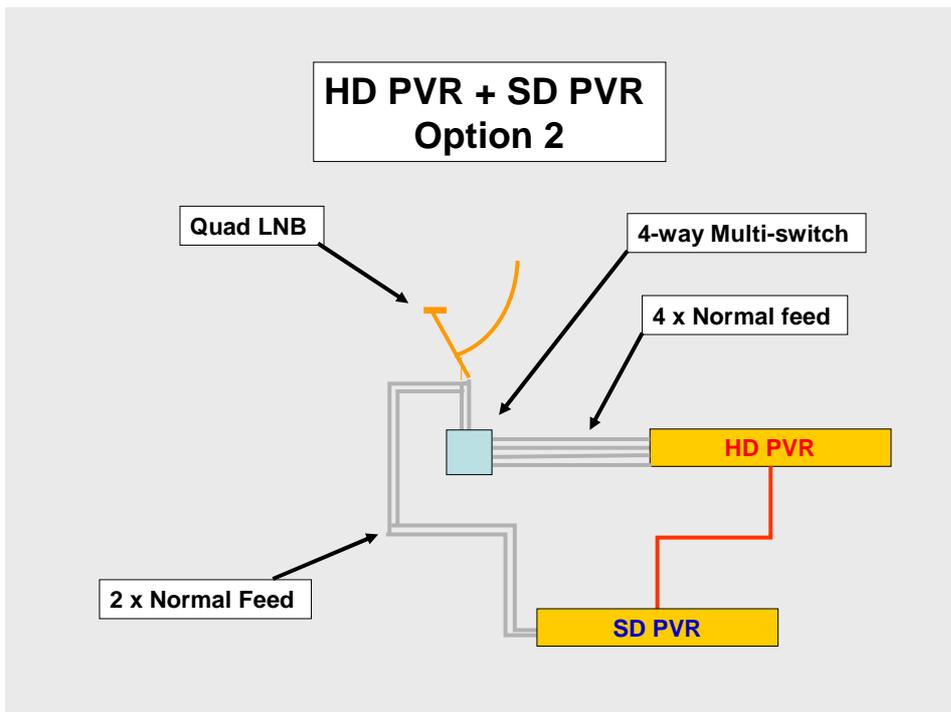
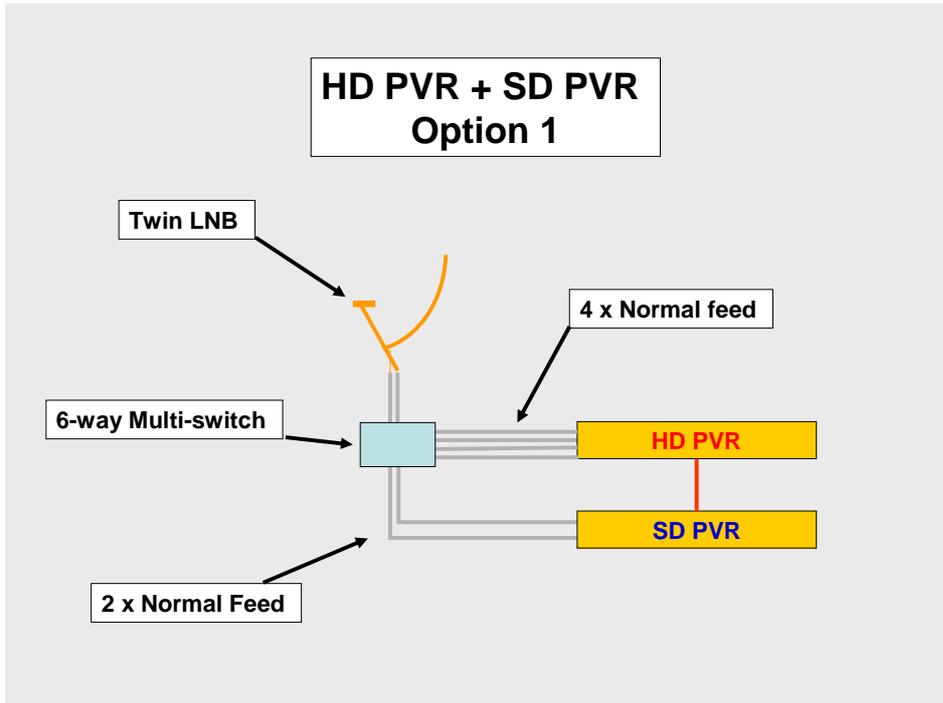
HD PVR + HD PVR

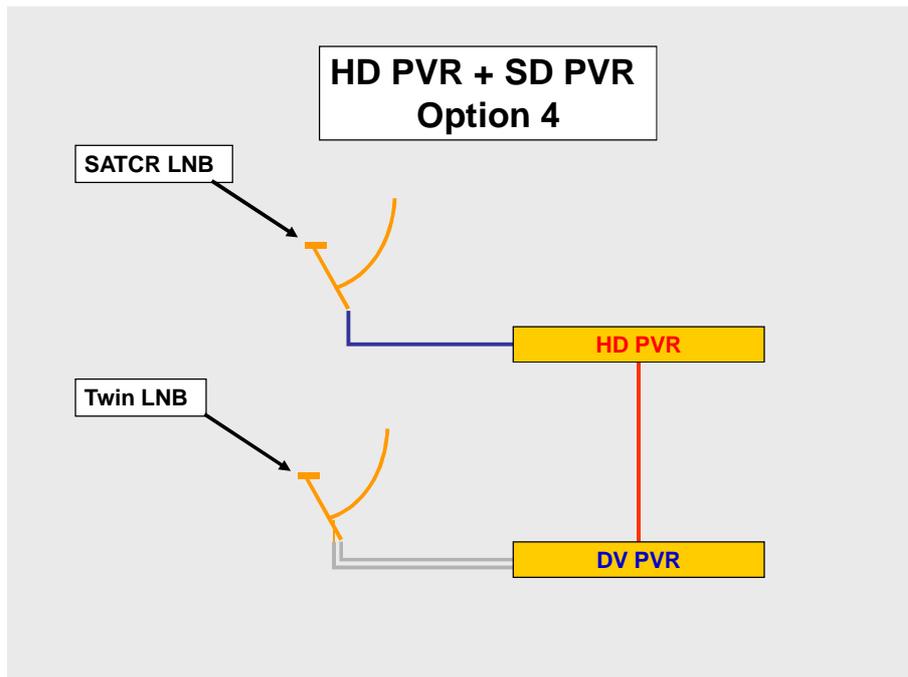




It is also possible to use 2 x quad LNB or 2 x twin LNB with 4-way multi-switches.

HD PVR + SD PVR





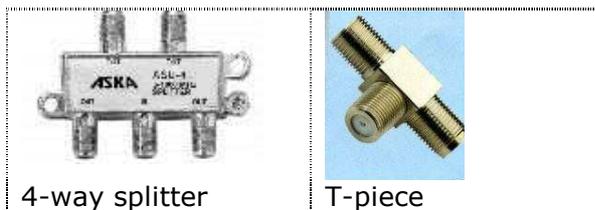
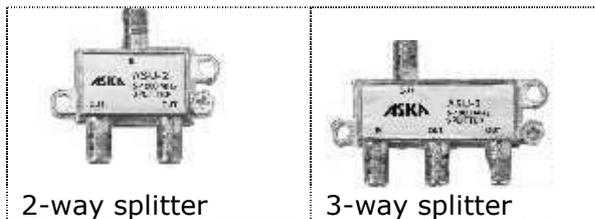
A quad LNB, or a twin running through a 4-way multiswitch could also be used for the HD PVR.

SPLITTING SIGNALS TO TVs

Splitting of a signal to multiple points is one of the most common requirements when installing DStv and there are various components which can be used.

Passive Splitters

Passive splitters are so named as they have no active components (ie. nothing that works with electricity). Some of these are :



Note: Splitters have at least some degree of isolation between the outputs legs which means that a device or signal connected to the one leg is less likely to interfere with a device or signals coming from (or going to) the device on the other leg(s). T-pieces have no isolation between the output legs and it is for this reason, that a splitter is less likely to cause a problem on either the other decoder or give a picture with a double edge (due to reflection).

Active Splitters

Due to the losses incurred when splitting a signal (you get slightly less than half the signal power even when you just split it in two), an amplified splitter is required in cases where the other viewing point(s) have a fuzzy / noisy picture.

These splitters require power which can come either from a separate power supply, or (in many cases) from the TV eye power as supplied by the decoder.

Using external power can take some strain off the decoder and may even provide slightly higher power at the TV eyes (depending on the capacity of the external power supply).



Active splitter

SPLITTING SIGNALS TO USE A TV EYE OR XTRAVIEW

To split a signal in a way which allows a TV eye signal to travel back to the decoder, the splitter needs to allow a reverse frequency (frequency allowed from the output back through to the input legs) of 7MHz. (5 to 30MHz are typical values)

The XtraView heartbeat goes in one direction only, ie. from the primary decoder to the secondary decoder. If the XtraView heartbeat has to pass through a splitter going in the forward direction, a splitter must be used that covers no less than 5MHz to 900MHz in the forward direction (this is because the heartbeat also runs at 7MHz). If you use the incorrect splitter, the heartbeat will get cut off as the splitter does not allow it through properly. (If the heartbeat is travelling in the reverse direction, the 3 to 30MHz reverse value as mentioned in the first paragraph is all that is required).

It is for this reason, that when doing an XtraView installation, we recommend that a relayed remote command from the primary to the secondary decoder be sent to check if the heartbeat path is functioning correctly.

⚠ WARNING!

Some splitters with design values that are different from the required ones may seem to allow the heartbeat / TV eye commands through, however, if conditions change (cable terminations, or even just temperature), your heartbeat may stop working. In many cases, just enough of the heartbeat / TV eye signal manages to squeeze through, however, when conditions change and the signal level drops even slightly, it stops working and there is suddenly a seemingly intermittent fault.

In addition to the low frequency range requirement, a TV eye needs 9V DC power - so if a TV eye is to be used, the splitter must also allow DC power pass on any leg leading to a TV that is being fitted with a TV eye.

⚠ **Note 1** : the XtraView system (the "heartbeat") does NOT require 9V DC to work, ie. no DC power pass components are required if you are not using a TV eye.

⚠ **Note 2** : Similarly, if no heartbeat or TV eye signal needs to pass through a component, the 5MHz to 900MHz requirement falls away and components allowing as little as 450MHz to 900MHz will cater for all your DStv needs.

⚠ **Note 3** : Passive splitters do not usually have a strict working frequency range and values of 5MHz to 2400MHz are common.

COMBINING SIGNALS FROM DECODERS

Combining signals from two or more decoders / sources so that these can be fed to an amplifier / splitter and then onto multiple TVs can also be done in various ways :

A T-piece

A simple T-piece can be used, but as it does not have any directionality, just as much of the signal will be going in the wrong direction (perhaps causing reflections) as will be going in the right direction.

It also does not have any DC power-pass isolation, so if TV eye power is required, the 9V will be passed on to all equipment that is not isolated by way of a DC block.



T-pieces can be used in XtraView networks using 2 x 1110 decoder or any networks where no TV eye power required.

Note: T-piece use could cause an imbalance of the impedance (75 ohm) – the possible result is wavy lines.

A splitter (in reverse!)

Just connect the RF OUTs from the decoders to the Output legs of a 2-way splitter. This effectively combines the two signals into one with the “INPUT” of the splitter providing the combined output.

A passive splitter must be used as combiner as any amplification would work in the wrong direction. (Remember you are using the outputs as inputs).

It is worth noting that the level of the 7MHz heartbeat signal is high enough to overcome the isolation on most of these splitters / combiners with ease. (Some professional high quality splitters have a lot of isolation between the legs, so test that the heartbeat is being transferred – don't just make the assumption).

This means that using a splitter in this way not only combines your decoder outputs for easy distribution, but also acts as a heartbeat link. (See the example on page 7).

Note: The heartbeat does get considerable losses crossing between (or getting reflected back through) the isolated legs of a splitter/ combiner, so a T-piece, or a separate heartbeat cable (the alternative dark green dotted line as indicated in some installations) may be needed in problematic cases where the heartbeat keeps failing.

An active combiner



Active combiners are recommended when combining more than 2 inputs.

Combining with TV eye / XtraView functionality

As mentioned previously, a TV eye needs 9V DC power, so if a TV eye is to be used, the combiner must allow DC power pass on at least one of its legs.

For the SD PVR + HD PVR XtraView combo, the SD PVR must have its TV eye power on (otherwise its heartbeat detection circuitry does not work), so connect the RF OUT from the SD PVR to the DC pass leg of the combiner.

! WARNING!

In all cases it is better to switch the TV eye OFF until the installation is completed and to then switch it back ON while watching for TV eye Overload errors. Failure to do so can damage your decoder's TV eye circuitry.

Combiners with DC pass on both legs (as well as T-pieces) can also be used, but watch out for "TV eye overload" errors, as the DC will then be passed through to all other equipment connected to the network as well.

Note: Use a DC block on the decoder not supplying the current as well as any equipment that does not have a TV eye or amplifier in front of it. (It only causes a 1 dB signal loss).

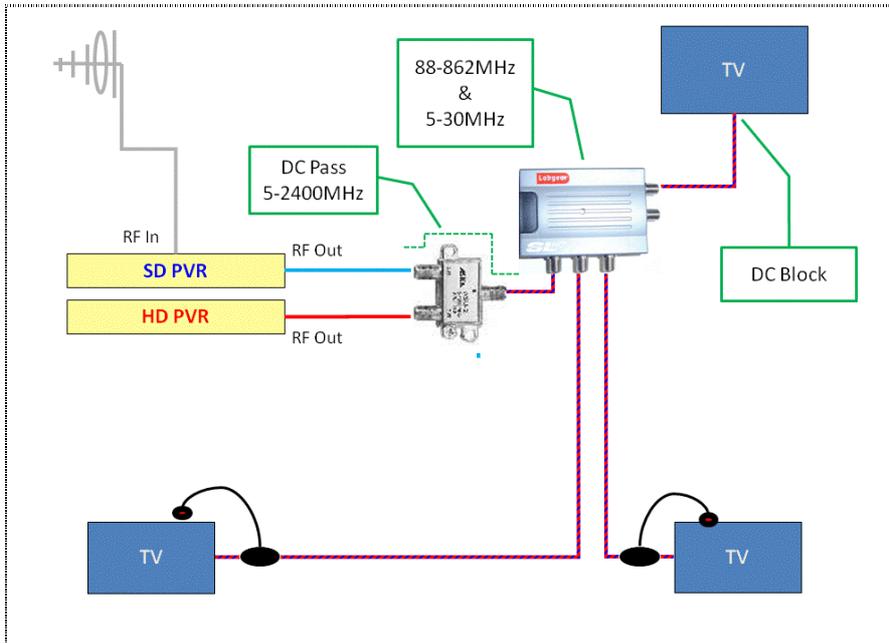
Equipment that can be damaged should be protected by placing them on legs without DC pass, or by fitting DC blocks.

As long as "TV eye overload" errors do not occur, the TV eye power can even be active on both decoders (this may be helpful in cases where multiple TV eyes as well as an amplifier needs to be powered).

Note: Active combiners are relatively scarce and if used, care must be taken to ensure that they allow TV eye / heartbeat signals as well as DC pass in the direction and on the legs as required.

EXAMPLE DIAGRAMS

The following is a typical example of an SD PVR + HD PVR installation :



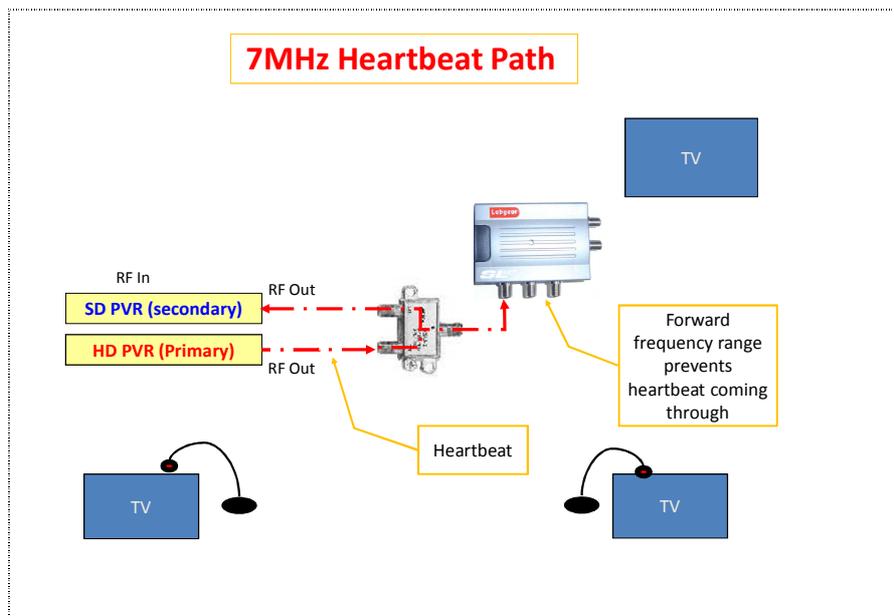
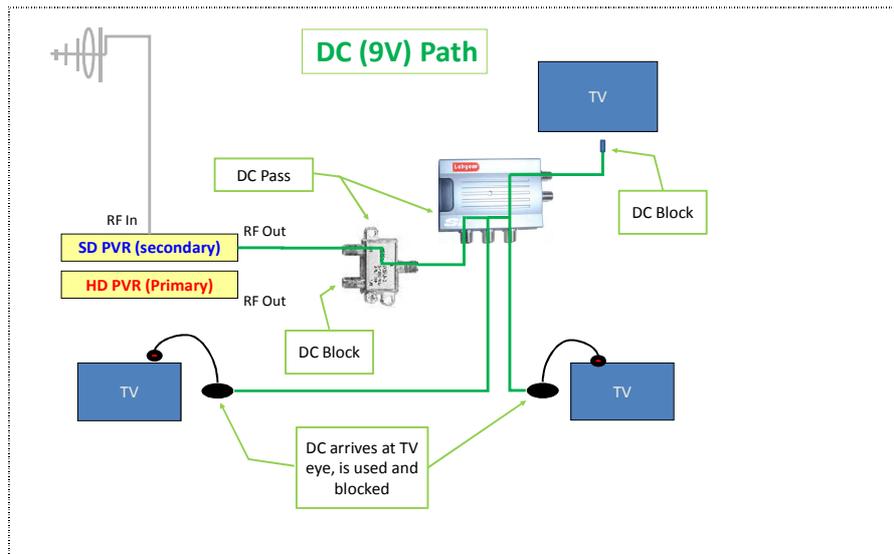
The splitter used is not passing 5-900MHz in the forward direction, but as there is no TV eye or heartbeat signal that needs to pass through it in the forward direction, this is irrelevant. (The heartbeat couples inside the 2-way splitter from the HD feed to the SD feed and can be ignored past this point. Remember to confirm that the heartbeat / remote relayed commands are being received by the SD PVR).

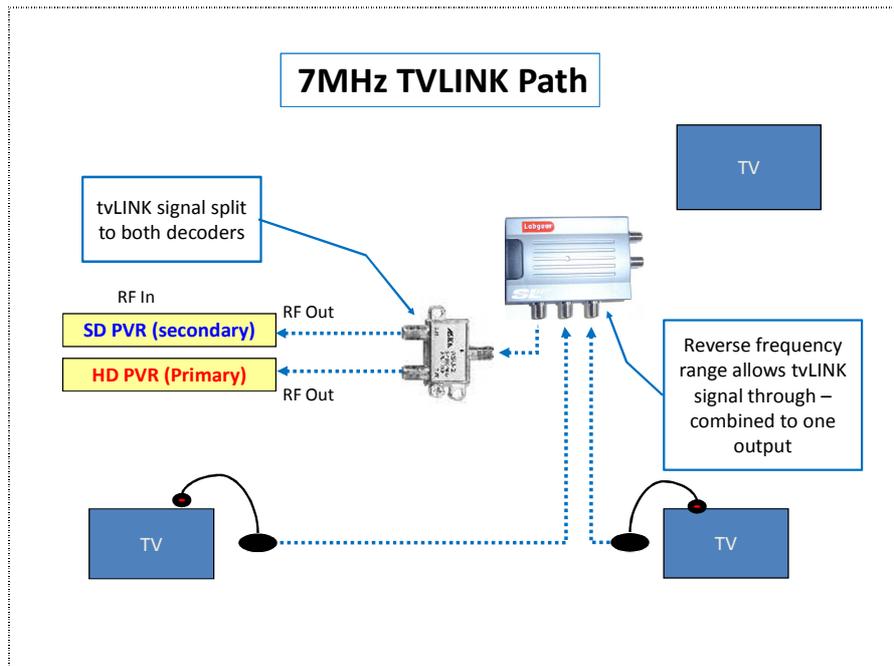
In the reverse direction, the TV eye signals coming from the TV eyes not only gets passed through the splitter, but they get amplified as well (5-30MHz pass with 8dB gain in the reverse direction) - making this splitter ideal for this specific application.

The 9V DC coming from the decoder is very unlikely to affect the TV, so the indicated DC block is an optional, but safe precaution. The 2-way splitter used in this example only has one DC pass leg, so the HD PVR is automatically protected from the SD PVRs 9V feed.

PS : For the eagle-eyed ones ... channel 79 is indicated at 860MHz, but has audio up to 866MHz, so for this specific splitter, channel 79 will probably have slightly reduced audio performance.

The DC and MHz paths are shown separately in the diagrams which follow.





Last word: It is always a good idea to use the lowest possible channels for distribution as the lower the frequency, the less losses you get. A horrible channel 79 can actually turn into a pretty decent channel 21 if the terrestrial signals (if used) allow you to move the decoder output that low.

APPENDIX C : TROUBLESHOOTING AN INTERMITTANT HEARTBEAT

Background

Intermittent heartbeat reception can be caused by :

- A signal that periodically gets attenuated so proper reception no longer takes place, or
- An interfering Infra-red (IR) signal that corrupts the heartbeat reception, or
- Electrical interference that causes the heartbeat detection circuitry to malfunction

The first issue – attenuation (weakening) of the signal, can be caused by :

1. Incorrect Communication Port setting / connection
2. Bad connectors, poor quality/ damaged cable (e.g. damage from sun or too-sharply bent)
3. Unsuitable or faulty splitters or amplifiers,
4. Component failure (on the detection circuitry) of the decoder

The second issue – IR interference, can be caused by :

1. Any source of Infrared e.g. fluorescent lights (*specifically energy saver bulbs*). These can enter the decoder directly, or be passed to the decoder from other rooms via TV eye or remote blaster.
2. Other consumer electronics like Plasma or LCD screens, some heaters, laptops, cell phones, etc.

The third issue – electrical interference, can be caused by :

1. Faulty / no ground on the television or home theatre system.
2. Faulty equipment sharing the same plug/ multi-adaptor.

Before Starting

- Check the XtraView status on both decoders. The primary should be "primary" and the secondary must be either "Secondary" or "Waiting for Communication". If not, call the Call Centre because XtraView has not been activated / has not been activated correctly.
- It's very difficult to solve a problem if it is not occurring – so the following procedures assume that the secondary is currently "Waiting for Communication"
- If you are experiencing intermittent remote response, chances are good that you have an IR interference problem – you may save some time and effort by doing step 2 "Checking for IR Interference" first.

Checking for Signal Attenuation

1.1. Check XtraView Settings

Check that the XtraView settings (specifically the Communication port and TV eye settings) are correct for your specific installation. If you are unsure, see the latest Installation manual, or check with your installer. An incorrect port setting may seem to work, but will cause additional losses and could be the problem.

1.2. Check Cables and connectors:

- Check that connectors are properly made off. There must be no stray metallic "hairs" inside the connector and you should not be able to just pull the connector off the cable.
- Check all connections to the decoder as well as any splitters/ amplifiers. They should be properly attached and not just by one or two turns of the connector.
- Replace cables that have been:
 - Exposed to sun so the outer plastic covering is brittle. (This will cause water to enter the cable and will weaken signal travelling through it.)
 - Squashed flat or bent cable – any damage from which the cable does not fully regain its former form. (When the round shape of the cable gets changed, the characteristics (e.g. impedance) changes and reflections and weakening of signals occur)

1.3. Check the link between the decoders:

If this is a large/ complicated job, you can do the other checks first and return to this step last.

- Replace the existing path (through which the heartbeat travels) between the primary and secondary decoder with a new cable and properly made-off connectors which directly link the decoders (bypass all splitters/ combiners/ amplifiers).
- ❖ *Note: Remember to confirm that the Communication port settings in the XtraView menus on the decoders reflect the actually connected ports.*
- Monitor the secondary decoder – if it starts to work, you have confirmed that the problem lies in the old "link".
 - Replace the old link and then start replacing/ bypassing one part at a time till the system starts working again. You have then identified the guilty component and need to replace it. (It is recommended that you also go through the information contained in "Signal Splitting and Combining".)

1.4. Check the RF detection circuitry on the decoder:

There have been cases of this being problematic on the SD PVR.

- Enable/ check that the TV eye is enabled in the decoder menu.
- Remove all cables attached to RF IN and RF OUT on the decoder
- Set the communication port setting in the XtraView menu to RF OUT. (On the SD PVR this setting is fixed)
- Plug a TV eye directly (using an adaptor or short cable) into RF OUT connector on the back of the decoder PVR.
- Cover the front panel of the decoder and check that the decoder still responds when you use the remote control. (The TV eye should relay the remote messages to the decoder via the RF OUT port)
- ❖ *Note: Check that you are using the right remote mode.*
- If the decoder does not respond, you have faulty TV eye detection circuitry and will need to get the decoder replaced before you will be able to use XtraView.

Checking for IR interference:

- Adjust the TV and decoder so you are able to view the XtraView communication status of the secondary decoder.
- *Properly* cover any TV eye(s) that are connected *anywhere in the house* (do not use just a few sheets of paper or a thin cloth).
- ❖ *Note : don't stand in front of the decoder or TV eye – you may be shielding it from the interference.*
- If there is no improvement*, jump to 2.2 "**Check for IR Interference directly to the decoder**"
- If the secondary decoder reports "Receiving Valid Heartbeat" at least once per minute* (i.e. the secondary starts working) the TV eye must be causing the interference:

Note: SLX TV eye eyes have a narrower frequency range and have been known to help in cases like this as it reduces the interference suffered.

** The current software sometimes causes an invalid fourth or fifth heartbeat, so a single invalid heartbeat (or no reaction) can be expected every now and again, even in a properly working system. The problem only remains if there is no valid heartbeat indication for longer than a minute.*

2.1. Check for IR interference from a TV eye:

- If uncovering the TV eye causes the heartbeat to fail, the eye must be transmitting interference to the decoder. We will now determine where that interference is coming from:
- Starting with the lights, switch off all electrical equipment in the room with the TV eye...one-at-a time...and monitor the secondary XtraView status after each switch-off.
- When valid heartbeats start appearing, the last thing to be switched off is the guilty party.
- If it is a light, replace the bulb, use another light source when watching TV, or place the TV eye so it is not exposed to that light.
- If it is anything else is causing interference (e.g. sunlight or something like a laptop's IR communication port or even a heater) the interference must be removed, or the TV eye placed so it is not exposed to/ affected by it.

2.2. Check for IR interference directly to the decoder:

- Properly cover the front panel of the secondary decoder (do not use just a few sheets of paper or thin cloth) and check its XtraView communication status.
- If covering the front panel has no effect, go to 3 "[Check for Electrical Interference](#)".
- If covering the decoder front panel results in the heartbeat being received properly, (the secondary starts working) interference must be coming in via the front panel.
- Starting with the lights, switch off all electrical equipment in the room...one-at-a time...and monitor the secondary XtraView status after each switch-off.
- When valid heartbeats start appearing, the last thing to be switched off is the guilty party.
- If it is a light, replace the bulb, use another light source when watching TV, or place the decoder so it is not exposed to that light.
- If it is anything else is causing interference (e.g. sunlight or something like a laptop's IR communication port or even a heater) the interference must be removed, or the decoder placed so it is not exposed to/ affected by it.
- If everything except the TV and decoder(s) have been switched off and no valid heartbeats are being received, The interference is possibly coming from your TV:

2.3. Check for Interference from the TV

- Switch off the TV (just put it in standby) and check the XtraView status from another viewing environment.
- If there is still no valid heartbeat, go to 3 “**Check for Electrical Interference**”.
- If the heartbeat comes through (at least once a minute), the TV must have been causing IR interference. Here are some suggested remedies:
 - Move the secondary decoder further away from the TV and see if that resolves the problem.
 - If the primary decoder is in a different room, switch primary and secondary decoders around. (Either physically, or by changing the activation via the call centre)
 - If the decoders are in the same room, permanently cover the front panel / hide the secondary decoder and use the Relay Remote commands feature on the primary decoder to control the secondary.
- ❖ *Final note on IR Interference - If the interference persists (i.e. you cannot find the interference, but your decoder starts working when you cover the front panel), the following trick may help you find the interfering IR source: Look at the room (in the dark) using a digital still or video camera – any IR source will show up as a bright spot.*

Check for Electrical Interference

- Switch off the TV and pull out its plug.
- Check the XtraView status from another viewing environment.
- If the heartbeat starts coming through, check the power lead on you TV:
 - If either end has only two metal pins, your TV is not earthed and you can consider calling an electrician or the TV manufacturer to ask about getting the TV earthed.
 - ❖ *There have only been 2 confirmed cases where earthing the TV has resolved intermittent heartbeats, so this should be used as a last resort. (Electrical interference gets passed from the TV to the decoder through the video/ RF connection causing the IR detection circuitry on the decoder to stop working)*
- Lastly, if the decoder is sharing a plug or multi-adaptor with any other equipment, use an extension and power it from another plug (or remove the other equipment), so the decoder is the only device being fed from that specific plug.
- If a valid heartbeat starts coming through, you need to power your decoder, (or the other equipment sharing the original plug), from somewhere else.
- If after following all these steps carefully, you still cannot get the XtraView network to function properly, you have a case that is unique enough from MCA to follow up as a special case. Contact us via the DStv website forums.