Federation of Victorian Film Societies Inc

INFORMATION SHEET 18 - (30th March 2026)

ASSEMBLE YOUR OWN DVD PROJECTOR PACKAGE

As you may have seen in ReelNews and several emails to film societies, the FVFS assembled and sold ten DVD projector packages to member film societies during 2007 and 2008. They were extremely popular and sold very quickly, but the FVFS is not proposing to assemble and sell additional units. Rather we will provide all the necessary information to explain how a film society can assemble their own package.

The aim was to develop a package which would be easy to transport and require a minimum of setting up at the venue. Virtually all the wiring is permanent with the players, amplifier and switch permanently wired – even the power wiring. There are only 5 leads from the package - a power input lead, power and s-video leads (Now one would use HDMI) to the projector and two speaker leads.

The information in this Information Sheet explains the design of the FVFS package and gives film societies the necessary information to assemble their own packages. The reasons for our choice of components is explained so that societies may make their own decisions regarding the design and assembly.

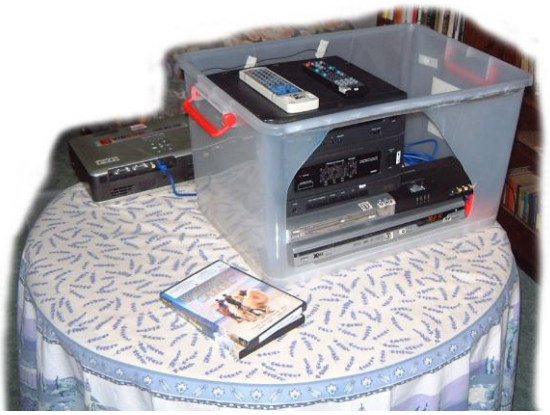


Fig 1. Note the cut-out shape to provide access to all controls.

Fig 2. Fully pre-wired with all cables neatly(!) arranged, and only 5 leads leaving the package (taped together)

Fig 3. Showing the holes cut in the carry box for cable access and visibility.

Fig 4. The MDF board is in place and the package lidded up ready to travel.

1. THE SHOPPING LIST

- DVD Projector

  The projectors used in the FVFS package were the Toshiba T50 or T60. They were ex-rental with more than 70% of their lamp life of 3000 hours still available. This represents almost 20 years of use by an average film society conducting two screenings per month. We paid between $600 and $800 for these units from Tech Rentals in Blackburn. (Now TRVIDCOM, a part of TR Corporation).
  New projectors are now available from a range of sources for $900 - $2000 depending on specifications. As time goes on, ever high definition projectors will fall within this price range.

- 2 DVD players

  Almost any low price DVD players will do. We used Conia, XMS and Teac, all available for under $50. They were available from JB HiFi, Harvey Norman, Strathmore etc. Two players to allow quick change between two sources, as well as some back-up in case one player will not play the DVD!

- Amplifier.

  A stereo amplifier of between 50 – 100 watts per channel depending on the size of your venue. The FVFS amps were typically 50 watts per channel. As many households are upgrading to home cinemas and Dolby receivers you will find suitable amps at Op Shops, Cash converters, markets etc. Expect to pay around $30.

- 2 speakers

  A matched pair of speakers which match the amplifier should set you back about $40, depending on their size. Bigger is better but remember you will have to move them and store them. Op shops, Cash converters and markets often sell suitable units, but be prepared to dump unsuitable (faulty or poor-sounding) units and buy a second pair.

- Changeover switch

  A three position A/V changeover switch from JayCar, Dick Smith or Radio Parts should cost you about $20. It should switch 3xRCA and one HDMI channel. It may not be possible without going to two switches, one for sound and one for video.

- Cables

  HDMI cables – One may be supplied with each DVD player and one with the projector. Note that the original FVFS package used s-video, but that is not obsolete. Be prepared to fall back to a video connection if you have an older projector which cannot handle HDMI.
  RCA stereo sound cables. You will probably get three cables with each DVD player, so retain the red and white cables (L and R channels) but buy another pair to go from the switch to the amplifier. Don't use the yellow for this usually represents video and thus could be confusing later.
  Speaker cable. Usually medium weight (figure 8) cable. ie two conductors, one of which is marked with a stripe or a different colour cable. As the normal projector will have a throw of about 9m to a 4 metre wide screen, you will need 22 metres of cable, costing about $22. But check out the length you will need for your installation before buying, taking into account the best placement for the leads to minimise danger to the audience moving around.
  All cables can be purchased at Jaycar, Dick Smith, Radio parts, or bargain shop etc.

- Carry and storage box

  The size of carry/storage box will depend on the size of the DVD players and amp, but if similar to the FVFS packages will have the following description:-
  Plastic, 55 litre, with lid. The FVFS boxes came with wheels but we removed them for stability. The boxes were 490 x 330 mm at the base increasing to 520 x 360 mm at the top, by 280 mm deep. Expect to pay about $10 from a bargain shop, Kmart etc.

- Aluminium stiffener

  When one side is cut out the box needs stiffening at its top edge. We used a length of aluminium strip. L shape, 20mm x 20mm x 480mm long (cost about $4 from Bunnings). We partially flattened it into a U shape to fit under the lip of the plastic box.

- Double sided foam sticky tape (to keep all players locked together)– sometimes called poster or mounting tape. 1 roll.

- Power board

  One 4 position power board with short lead. Available at most hardware shops for about $5.

- A4 clear folder

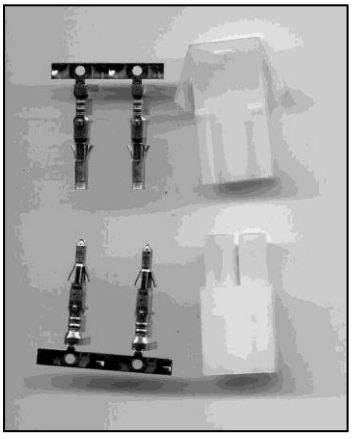
  Needed to collate equipment operator manuals and package setup instructions. Available from most newsagents.

- Stiff board

  3-ply, MDF or Masonite (3mm thick) cut to fit in the plastic box and cover the main front hole made for accessing the players. In the case of the FVFS package it was 490 mm wide at the top, 460 mm wide at the bottom and 275mm deep. About $4 at Bunnings.

- Speaker plugs

  Special plugs and sockets are recommended at the speaker to connect the speaker cable to ensure that when disconnected, the cable conductors cannot short (if the amp is mistakenly switched on). We used soft shell plugs (Molex or Duratech) from Jaycar (Cat item PP-2020) for $2 a set. You need two sets.



- Cardboard box

  Use a strong cardboard box to carry and store the speakers.

- Extension power lead of a length to suit your installation.

- A small torch to store with the equipment.

2. DETAILED SPECIFICATIONS IF YOU PLAN TO BUY

- Video projector

1. A DLP projector is preferred to LCD because we feel it gives a better, warmer colour. Older DLP units sometimes suffered from the "flyscreen effect" where fine lines are visible throughout the image. Modern projectors are much better however. The DLP technology relies uses microscopic mirrors and a colour wheel and is considered more robust that a 3-panel LCD projector. This may be important if the unit is to be moved a lot. It is really a matter of preference between the technologies.
2. 1,500 ANSI Lumens minimum – especially if it is to be used in semi dark environment.
3. XGA (1,024 x 768) resolution or better. WXGA is 1280 x 800). Full high definition projectors are 1920 x 1080 pixels, and support 16x 9 (widescreen ratio) pictures better. Their interface is usually HDMI, a digital connection.
4. Contrast ratio of 400:1 or better, especially if not in a completely darkened room.
5. Zoom is preferred as it gives some flexibility in placement or handling different sizes/ratios. Manual zoom is adequate.
6. Image size to suit your screen. We recommend up to 4 metres wide for a good image for a film society. The FVFS projectors can screen from 0.8 to 7.6m diagonal, from a distance of 2 to 11 metres. This means that the equipment must be set up in the centre of the room. Thus the operator is the room with the audience, in the dark, there are cables across the floor and heads must be avoided. However, the operator shares the experience with the audience and can get the sound levels and focus right every time.
   A lens with a longer throw would be much more expensive and require greater light output, although it would mean that the operator could be at the back of the room or in a bio-box.
7. Keystone correction. For a normal setup this is useful. The FVFS equipment has up to 15Degree correction.
8. Input should be HDMI for preference. While component video is arguably better, it requires 3 RCA cables to be switched, plus the 2 stereo, which is beyond the capability of most changeover switches. HDMI (a digital interface providing high definition 1920 x 1080 pixel resolution). But note that a normal changeover switch may not handle HDMI.
9. Size, weight, fan noise should be considered when selecting a unit.
10. Lamp hours are not critical as a film society will only use the projector once or twice a month for up to 4 hours per screening. Two screenings a month equates to less than 80 hours a year. The ex-rental equipment we purchased had over 1200 hours left on them.

- DVD Players

1. Must be "All Region" compatible or be able to be set up that way.

(NOTE: If your DVD player turns out to be region 4 only, it may be possible to change it to "all regions". Google "Region free hacks" for several information sites such as www.videohelp.com/dvdhacks. Most so-called "hacks" involve a sequence of actions using the front panel controls and remote to reveal the region menu.)

2. HDMI and video outputs. Consider using a Blu-ray player or one with upscaling. Both will play DVDs at a resolution better than normal video.
3. Stereo sound output using 2 RCA and capable of being "downmixed" to stereo.
4. PLAY and PAUSE controls should be on the front panel and if possible, NEXT and PREVIOUS also.
5. Should have a time and track indicator on the front panel.
6. Size and shape must be compatible with the plastic carry box.
7. We suggest two different players so that if a DVD proves incompatible with one player (eg out of tolerance) then there is a good chance it will play in the

second unit. It also means that two films (eg a short and feature) can be cued ready to start. There is also less chance of interference between the remote controls of the two players.

- Amplifier.
    1. Almost any home stereo amplifier will do, in the 50 – 100 watt range, depending on the size and sound quality of your venue. Should normally have volume control, balance and maybe tone controls, although the latter is seldom needed.
    2. Its size and shape must be compatible with the carry box.
    3. Requires external (Aux) input terminals, preferably 2 x RCA.
    4. Home CD/tape/amp units are generally unsuitable as they are usually too high.
    5. Output speaker terminals should be suitable for permanent connection of the speaker cables. Screw terminals are ideal.
    6. Note that second-hand units can be faulty and may not come with a guarantee, so be prepared to discard a faulty unit and buy a second.
    7. Noisy controls can be fixed by rapid movement to shift the dust or by spraying with contact cleaner (eg WD40)
    8. Remote control may be essential if the unit is to be placed at the front of the room.

- Speakers

  Should be a matched pair capable of handling the output from the amplifier. But if buying second-hand be prepared to buy 4 to be sure of two good speakers. Larger units would suit most venues better but remember you will need to transport them. Multi-speaker enclosures are often better. We suggest a mid-range pair about 40mm x 30mm x 200mm deep. The type of connection is not important as it can be changed. It is recommended that it be changed to a connector which cannot be shorted out inadvertently if disconnected from the speakers as this could damage the amp. This would not be of concern in a permanent setup – but a setup which is dismantled regularly could easily find the amp ON with the speaker leads disconnected from the speakers.

- Storage/Carry box
    1. The FVFS used a 55 litre plastic storage box, with lid, available from The Warehouse, other bargain shops, Kmart etc.
    2. The recommended size is Base 490mm x 330mm, Top 520mm x 360mm and depth 280mm.
    3. The FVFS unit came with wheels but we removed them for stability.
    4. Remember it should be big enough to carry all the equipment, permanently wired (except the speakers and projector) yet be a suitable size for transporting in a car boot.

- Flat piece of board, 3-ply, MDF or Masonite. 3mm thick, 490mm wide at the top and 460mm at the bottom, and 275 high. This will be used to fill the access hole cut in the side of the box when stored, and should be cut to match the size of the box.

3. ASSEMBLY

1. Assemble the whole package on a flat table to check the layout before attempting to load it into the plastic box.
2. Place the two DVD players on each other and on top of the amplifier.

(NOTE: In the FVFS package we used a tall, narrow amplifier with radio included. We therefore placed it on top of the stack with the changeover switch to the side. This can be seen in the photos on page 1)

3. Place the changeover switch on the top player.
4. Connect the 2 x RCA and video cables between player 1 and the changeover switch (position 1)
5. Connect the 2 x RCA and video cables between player 2 and the changeover switch (position 2)
6. Connect the 2 RCA cables between the changeover switch output and the amplifier.
7. Connect the speaker cables between the amp output and the speakers. Before cutting into 2 pieces (one per speaker), decide where the cable will go in the final installation. Up the centre aisle to the screen may be best (hence 2 equal lengths), but depending on the source of power, the power cable may need to go to the side in which case put the speaker cables along the same path. In this case the two speaker cables will not be the same length. Label the speaker cables Left and Right.
8. Connect a video cable between the switch output and the projector input.
9. Connect amp, DVD players and projector power cables to the 4 way power board.
10. Connect the power board to the mains power, power everything ON and test that everything works together correctly.
11. Switch off.
12. Place the power board and power leads to the side and carefully lift the equipment stack into the plastic box to ensure it all fits together within the confines of the box.
13. With a marker pen mark where you will cut out the front panel to give you access to all the DVD player and amp controls and the changeover switch. The shape will be similar to Figure 1.
14. Mark out on the rear of the box where you will need to cut holes for the power, video and speaker leads to exit the box. The best place is near where the power board will be as that cable is the strongest and heaviest (Fig 2)
15. Also mark out where other holes may be needed to provide visual access to the rear of the DVD player RCA connections and amp connections as they may be hidden once the package is assembled and locked together (Fig 2). Note a further comment below regarding placement of the power-board.
16. Remove the equipment stack.
17. Cut out the marked holes. Use a hole saw or drill to cut neat corners of the cut-out then use a jigsaw. You need to take this slowly and gently to be sure you do not split the plastic.
18. Sand the edges smooth.
19. Cut the aluminium strip to length and flatten it into a U shape to fit in the collar of the plastic box and secure it there with contact cement. Wait for it to harden.
20. Place the amplifier and DVD players in the carry box, clear of the edges, and fix them in place as you go using the double-sided mounting tape- 4 pieces, one in each corner under the rubber feet.
21. Stick the power board to the top player with mounting tape. We suggest at the left hand side, parallel to the edge of the player, with the power cable passing out the hole in the rear of the box.
22. Stick the changeover switch to the top player with mounting tape. We suggest in the centre, at a 45 deg angle to the front, leaving space at the right to store cables controllers etc.
23. Ensure all power plugs are connected tightly, including the projector power cable, and tape the plugs in place to stop them coming loose. Place them all neatly in the space at the end of the box, except for the projector cable which should exit the box via the cable hole.

24. Ensure all AV and Sideo plugs are firmly connected and place the cables neatly around the inside of the box.
25. Ensure the projector video cable is firmly connected to the switch output and pass the cable out the same cable hole.
26. Pass the speaker cables out the same cable hole.
27. Tape all cables that exit the box, at a point just inside the box in such a way that the strain is taken on the power cable not the signal cables – especially the video projector lead.
28. Cut a half-circle (5 cm dia.) in the long side of the lid so the cables that exit the box through the hole in the rear, can be folded back into the box for transport.
29. We added a shoe-box lid to the package to hold the torch and the remotes to stop them straying. It fits neatly on top of the players to the right of the package.
30. Assemble all player handbooks and any specific instructions and FAQs in the A4 folder which can be stored neatly within the package.
31. Label the players (1 & 2), their remotes and the corresponding positions on the switch.
32. We found it useful also to label the main controls on the players, the amp and the remotes to make it easier to find when operating.

4. SET-UP and TESTING

- Go to SETUP on the DVD players and set the following (may be different for different players)
    - Video set to LB (Letterbox)
    - Video output to HDMI
    - Sound Downmix set to Stereo
- Set up the Video Projector for
    - HDMI input source
    - Letterbox
- Check that the changeover switch works correctly across both players and the neutral position.
- Ensure that each DVD player can play a selection of DVDs (check at least regions 1, 2, 4 and 0, and one or more different ratio images), that the sound level is good and the picture is the correct ratio.

5. OPERATING

1. Always check the DVD for dust, fingerprints etc.
2. Choose the optimum distance from the screen, zoom amount and picture height to suit the feature, on your preferred DVD player. The picture should fill the width of the screen and be placed as high as feasible.
3. If there is any doubt about the quality of the DVD check it right through. Using the NEXT or FAST FORWARD button will usually pick up if there is a bad spot on the DVD. Sometimes a DVD will not play in one player but will behave well in the other. This is the main reason there are two, different players in the package.
4. Then check the second DVD (if one is to be used) in the other player and ensure the image fits the screen.
5. Check sound levels from both players.
6. Ensure all external cables are safely covered with a cable cover or carpet strip.
7. Make sure that audience seats are not placed where heads will interfere with the image.

6. HINTS

Although you might be tempted to run the so-called “widescreen” films on the “wide” setting of the player and the corresponding “wide” setting on the projector, it usually makes no difference to the image quality. Rather than change between “wide” and “Standard” when you change between screen ratios, consider leaving the player and projector permanently on “Letterbox”. This way all ratios will end up correct on the screen, although you may need to zoom or move the set-up occasionally. You will never be left wondering if the ratio is, in fact, correct. Do not use the “Pan and Scan” or “P & S” setting for widescreen films because this chops off the sides of the image to allow it to fill the height of a normal ratio screen, thus missing some of the image.
We can recommend an interesting short “extra” on this topic by Sydney Pollack on his DVD of “The Interpreter”.

It is possible that a remote from one DVD player can interfere with the operation of the other player in an unpredictable way. Therefore, always shield the remotes from other players and minimise the use of the remotes, especially when a DVD is set up or playing. A cardboard shield between the players is a good idea.
In the worst scenario, one remote can actually change the video settings on a second player, putting it in a mode which is incompatible with the projector. As there is no image on screen in this situation it becomes difficult to restore the settings of the player.
If for any reason, a player is set in a mode which does not display on screen, connect a video lead (RCA-RCA) between the DVD player video output and the projector video input (Not HDMI), and set the projector input (via the on-screen input menu) to video. You will then be able to view and therefore restore the DVD player settings before resetting the projector to HDMI.

7. FURTHER INFORMATION AND SUPPORT

Check out the FVFS website www.fvfs.org.au for the latest information and FAQs sheets on DVD projection. Don’t forget the MEMBERS ONLY pages for information about DVD rights and special deals with DVD distributors for film societies.

If you have any concerns or questions please email us on admin@fvfs.org.au

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