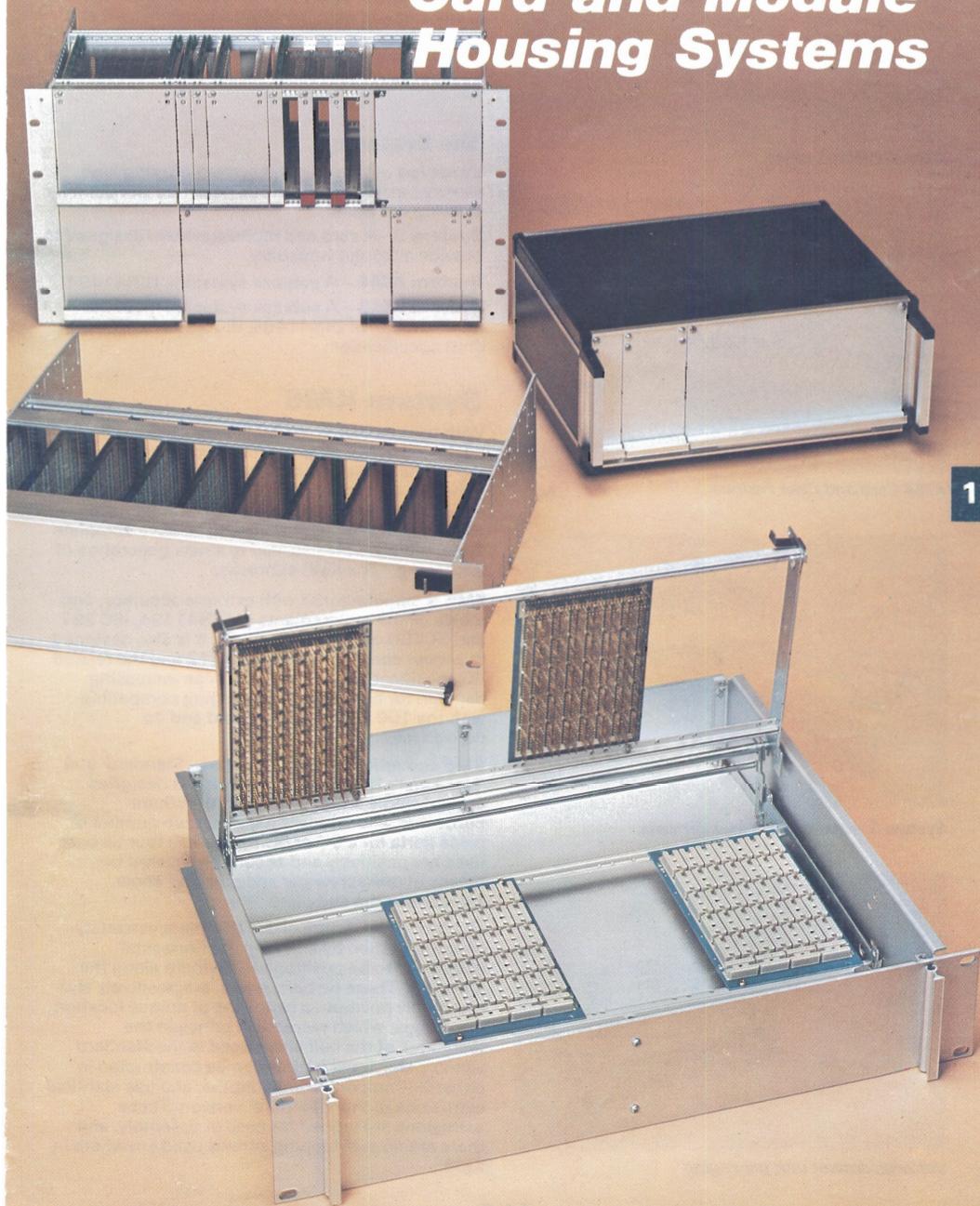
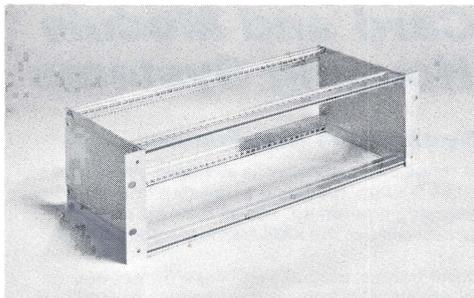
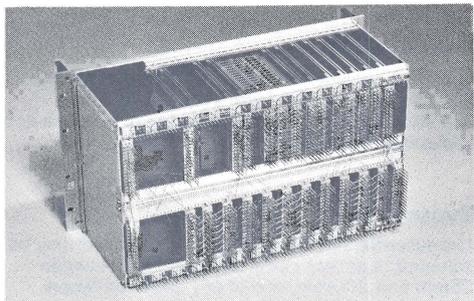


Card and Module Housing Systems

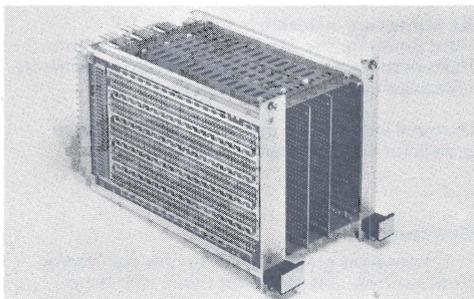




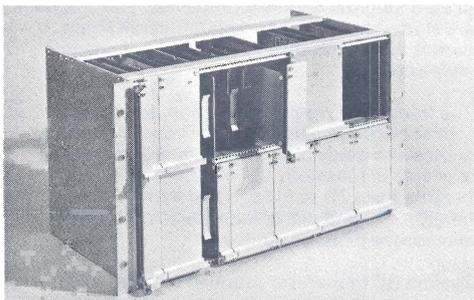
KM6 – 3U 'Standard' basic frame



KM6 – 6U with integrated busbars



KM6 – Cassette Module



KM4 Card Frame – 6U

Card and Module Housing Systems

System KM6 Integrated Busbars

All rear extrusions are available with or without pre-assembled, multilayer busbars, suitable for mini or midi-wrapping. These busbars, being an integral part of the tie bar, and hence the frame, are to aid signal and power distribution across the subrack, and guarantee that the pins lie on the same grid as the connector pins in all three planes.

Split frames, for a mixture of 3U and 6U heights within a 6U frame, are achieved by a divider plate kit. This occupies no front panel space, and the divided portion can be at the left or right hand side of the frame. (The kit can be added at any one time – even to an existing 6U frame).

Plug-in units, compatible with both 'standard' and 'universal' frames, come in four forms:-

- Card mounting front panel assemblies
- Two rail modules
- Four rail modules
- Four rail cassette modules

The whole family of KM6 plug-in units are based on a modular concept, ensuring strict alignment of front panels and fixing screws, giving positional accuracy and an elegant frontal appearance. The range covers 3U and 6U high with a wide choice of panel widths. All plug-in units are supplied in kit form, and are available with complete screening options.

System KM4

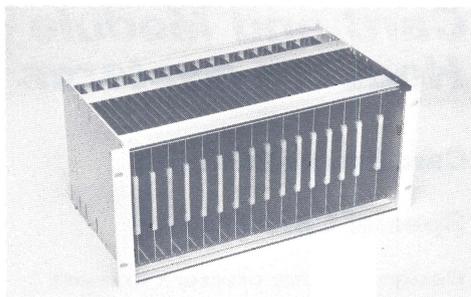
System KM4 is a 19" card and module frame system, which may be used in standard 19" instrument cabinets or racking. It is designed as a Eurocard housing to DIN41494, and caters for the rapidly increasing demand for high density packaging.

KM4 provides a series of frames to house plug-in cards of single or double-height Eurocard or modules in 3U or 6U high or in mixed units allowing a combination of both heights into a single frame. The frames will accept a variety of connectors ranging from DIN41612 to direct connectors.

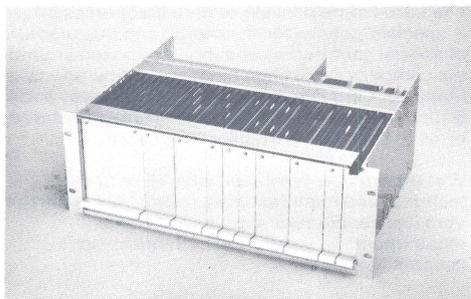
Modules associated with the KM4 system are available in a comprehensive range of widths from 3E (14.8mm) to 42E (213mm), all offering screening options.

A new busbar assembly has been developed for use with KM4 frames, which is integral to the structure of the frame, and is, therefore, rigid and not subject to vibration. The user may, therefore, specify a frame from the KM4 range, and obtain all the advantages of two, three or four level power or signal distribution via a sophisticated, precision-engineered busbar.

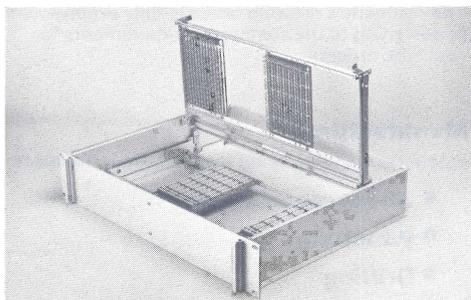
Card and Module Housing Systems



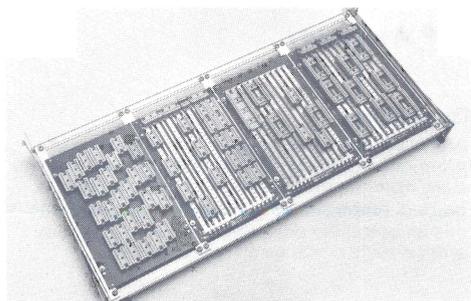
Card Frame 3D with Verolock



Module frame 3E



Verovips drawer unit



Eurochassis board sub-frame

System 3D

This 19" frame, based on a fixed card pitch of $2\frac{1}{2}E$ (12,7mm), has been developed to incorporate a facility for mounting circuit boards on individual front panels, 5E or 10E wide.

Incorporated into this frame is a unique push-pull device – Verolock(R) – which in one action locks all cards securely into the frame.

3D card frames are available in 19" (428,6mm) width, in heights of 3U, 4U and 5U and two depths of 254mm or 330mm.

System 3E

A 19" wide frame based on a fixed guide pitch of $2\frac{1}{2}E$ (12,7mm) designed to provide a housing for cards, modules or a combination of the two, all secured by a single action push-pull Verolock(R). The rear extrusion provides a mounting for both the card guides and full height connectors, giving automatically correct connector positioning. The alternative module interconnection using McMurdo plugs and sockets is catered for by using secondary plug mounting rails.

Modules widths range from 5E to 40E, and two depths are available – 194mm to 278mm.

System 3E card and module frames are available in 19" (428,6mm) width, in heights of 3U, 4U and 5U and two depths of 254mm or 338mm.

Optional accessories include base plates and screens for modules.

System 3E frames and module kits are supplied unassembled.

Verovips

Verovips is a drawer unit system developed to achieve maximum space utilisation coupled with total access for testing and servicing.

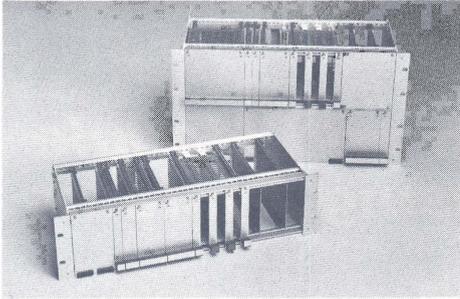
Boards are secured in a sub-frame which is mounted horizontally on hinged points within the basic drawer unit and may, therefore, be hinged out for all-round accessibility.

A full range of compatible logic boards is available, see Section 4.

Two significant wiring advantages can be gained by mounting a full set of four boards across a sub-frame. Firstly, all wire-wrap pins are positioned on one matrix, which means that semi-automatic wirewrapping becomes economically attractive, and secondly, the wiring order may be so arranged that each board is self contained, offering an inexpensive servicing and replacement facility previously impossible with traditional large boards. In addition, a drawer unit can utilise cabinet depth most efficiently with boards mounted one behind the other. This configuration allows 16 wirewrap Eurocards 100 x 160mm arranged in two banks, each of two layers of four boards, to be used in one drawer unit only 2U (88,9mm) high – an elegant solution to the space problem.

Card and Module Housing Systems

Over the years, Vero Electronics Limited have developed and manufactured a range of card and module housing systems or subracks. Each system, based on the 19" standard, is specifically designed for a particular task or to meet a design standard.



KM6 Subrack System

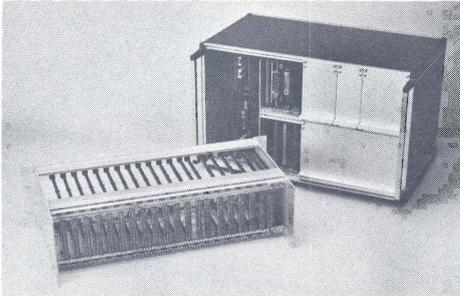
The Systems

Verovips – A drawer unit system offering high density packaging on boards mounted horizontally in swing out frames.

System 3 – A card and module system designed to provide all round versatility.

System KM4 – A subrack system to DIN41494.

System KM6 – A subrack system to meet the requirements of DIN41494, IEC 297 and SC48D draft specification.



KM4 Card and Case Frames

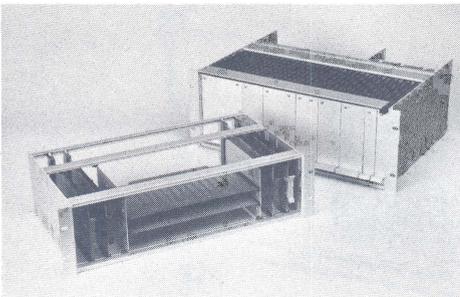
System KM6

With the increasing availability of module-packaged active plug-in units from manufacturers, the IEC has based its draft specification for subracks around the principle that an engineer should be able to house a variety of units from different sources in a frame, and achieve complete compatibility. This has led to a new generation of packaging - The KM6 subracks.

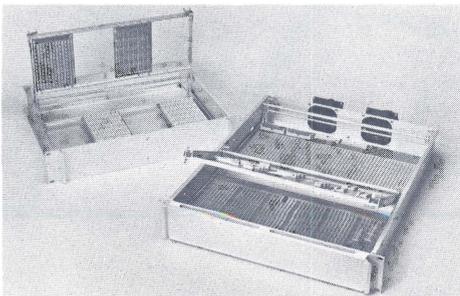
KM6 is manufactured with extreme accuracy, and meets all the requirements of DIN41494, IEC 297 and SC48D draft specifications. It is also designed to accept connectors to DIN41612 and the related VG specifications, and caters for an increasing demand for high density packaging compatible with the 100 x 160mm Eurocard and its derivatives.

KM6 comes in two distinct forms: 'Standard' and 'Universal'. The 'Standard' version is designed around single and double-height 160mm Eurocards, and features the minimum number of piece parts for a 3U or 6U frame. The four tie bars used are positively and accurately located by means of one screw per end plus half shear locations in the end plate.

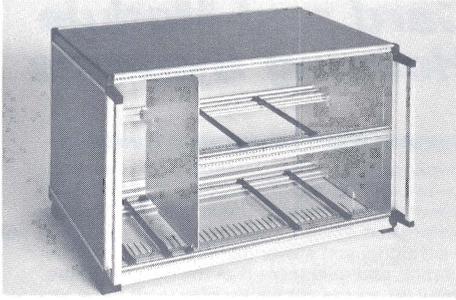
The 'Universal' frame offers complete versatility of configuration by enabling the horizontal extrusions to be positioned anywhere along the end plate. These tie bars, again, are positively and accurately positioned by means of unique location mouldings, which recreate in principle the technique of the half shear used in the standard version. Universal frames can be constructed in either 240mm or 360mm depths, and use identical extrusions to the 'Standard' version. These extrusions are tapped for ease of assembly, and there are no self-tapping screws used anywhere in KM6.



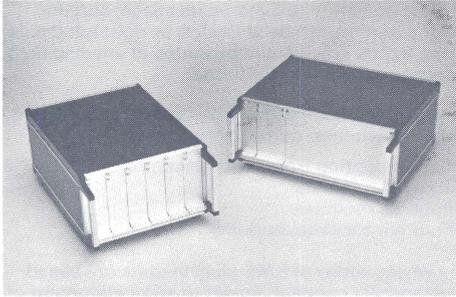
System 3 – available in four variants



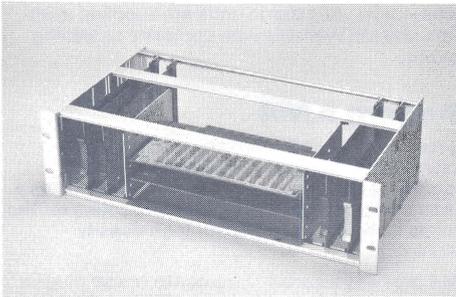
Verovips drawer unit packaging



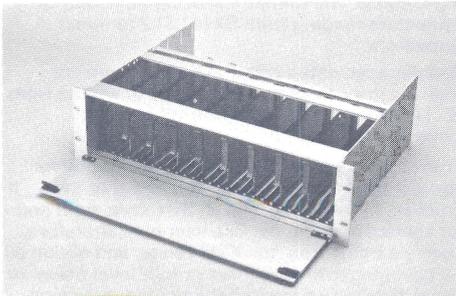
6U x 84E KM4 Case Frame – basic kit



42E and 60E Case Frames – KM4



3U System 3A, with horizontal card kit.



System 3C with hinged front panel

Card and Module Housing Systems

System KM4 Case Frames

A range of case/frames is available, within the KM4 System, providing a one step housing for free standing equipment, and all features and accessories of the KM4 frame are compatible.

KM4 frames, modules and case/frames are supplied in kit form, and are easy to assemble by following instructions included with each kit.

System 3

System 3 consists of four variants known as 3A, 3C, 3D and 3E, which form a family of frames related in basic design, but differing in purpose and application as outlined in the following.

System 3A

The essential feature of system 3A is that it may be adjusted to accept cards of any height between 25mm and 200mm, and of any depth between 100mm and 200mm, thus offering a frame with the maximum versatility essential for design and development.

3A frames are available in full width 19" (482,6mm) for the 2U, 3U, 4U and 5U heights. Half width frames (266,7mm) are also possible by utilising the piece parts available.

Optional accessories include vertically hinged panels for selected frame heights.

System 3C

This frame has guide mounting rails secured on fixed centres, and caters for those who have standardised on a card size of 19mm below the overall frame height. A large number of optional configurations are available to house a wide range of card heights, depths and pitches. The end plates are slotted for connector mounting rail fixing to permit the user choice in specifying connector style and size.

The frame is of rigid construction, employing robust extruded aluminium sections for front angles and guide mounting rails. 3C frames are available in full width 19" (482,6mm) in four heights from 2U to 5U and two depths. (Except 2U height). The end plates incorporate half shears for accurate and fast assembly.

System 3C frames are supplied unassembled. Optional accessories include horizontally hinged front panels.



Card and Module Housing Systems

Card Frame Division

Special Card Frames

Design and manufacture to users exact requirements

The Card Frame Division of Vero Electronics offers a 'specials' service for the design and manufacture of special card frames and modules based around the company's existing standard configurations. Major UK Card Frame users, such as Plessey and British Rail use special card frames manufactured by us to their own particular 'standards'.

Vast experience, combined with an unrivalled technical and manufacturing capability means that Vero can handle your special card frame requirements to an assured high quality at economical prices.

Design

The company's drawing office is fully experienced in designing to the customers requirements for first time orders.

Manufacture

Extensive manufacturing facilities are available for:

- **Sheet metal work**
- **Punching**
- **Drilling**
- **Silk Screening**
- **Engraving**
- **Assembly**

Quantities

Any order can be undertaken providing it is of production quantity. Obsolete configurations and sizes from the Vero Electronics Ltd. standard product range can be produced as specials with no design or tooling cost, but a realistic minimum order charge exists on all special orders.



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