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IRT Eurocard Frames and Power Supplies

Types FRU-3000, FRU-3001, FR-700, FR-700A, FR-700B, FRU-1030, FR-748A, PSU-3000, PSU-3001, PSU-3002, PSU-3006 PT-700, PT-701 & PT-748A

Telstra Serial Items:

736/100	FRU-3000/FR-700
736/94	PSU-3000/PT-700
347/66	FRU-3001/FR-748A
347/67	PSU-3002/PT-748A
347/68	PSU-3001/PT-701
347/109	FRU-1030

Designed and manufactured in Australia

IRT can be found on the Internet at:
http://www.irtelectronics.com

IRT Eurocard Frames
and
Power Supplies

Types FRU-3000, FRU-3001,
FR-700, FR-700A, FR-700B,
FRU-1030, FR-748A,
PSU-3000, PSU-3001, PSU-3002, PSU-3006
PT-700, PT-701 & PT-748A

Instruction Book

Table of Contents

This instruction book applies to units later than S/N 9506000.

Operational Safety:

WARNING

Operation of electronic equipment involves the use of voltages and currents that may be dangerous to human life. Note that under certain conditions dangerous potentials may exist in some circuits when power controls are in the **OFF** position.
Maintenance personnel should observe all safety regulations.

Do not make any adjustments inside equipment with power **ON** unless proper precautions are observed. All internal adjustments should only be made by suitably qualified personnel. All operational adjustments are available externally without the need for removing covers or use of extender cards.

WARNING

AC POWER SUPPLIES

Whilst every effort has been made to prevent exposure of service personnel to dangerous voltages, AC mains input power supplies are by their nature dangerous when connected to the AC mains supply.

Wherever possible maintenance work on power supplies should be carried out with the mains input disconnected - NOT just switched off.

When testing units with the mains supply ON, the supply should be connected through an earth leakage circuit breaker and should not be done without another person in attendance.

Introduction

The grouping of products with a common frame and mains power supply benefits the user by providing economy and efficiency in manufacture and minimum utilisation of valuable space.

Different modules may be mixed in the one frame to provide a compact solution to system design and ease of later expansion.

By providing a choice of 1 RU and 3 RU frames IRT covers the requirements of both small and large users.

In addition, the 3 RU frames provide for two completely isolated supplies providing essential services with full redundancy.

3 RU frames are available in two forms:
The FRU-3000, which supersedes the FR-700 series, provides accommodation for 12 modules. The required PSU unit PSU-3000, which supersedes the PT-700, is AC input only and houses the two supplies in one case to conserve space. This however means that the frame must be taken out of service to replace the power supply if required.

The FRU-3001, which supersedes the FR-748A, provides accommodation for 10 modules. Two PSU's may be fitted for redundancy.

Note: The PSU-3000 uses a connector similar in appearance to the PT-700 however pin size varies. As such the PSU-3000 is not directly reverse compatible with the older style frames. A mating connector is supplied with the PSU-3000 for replacing the FR-600 and FR-700 connectors for complete compatibility.

1 RU Frames:
The placement of one or two Eurocards in the 1 RU chassis provides the equivalent of a 1 RU product, but at a lower cost and with greater flexibility.

The FRU-1030 is a single rack unit frame that may be fitted with either one or two Eurocards in a horizontal side by side format. A single AC power supply is included to power the cards and a voltage selector on the rear panel satisfies international requirements. The frame includes Eurocard guide rails for ease of card installation and removal.

For servicing purposes the TME-6 Eurocard extender board is available for use with cards fitted to the 3 RU frames and the FRU-1030.

IRT Eurocard Frame

Type FRU-3000
FR-700, FR-700A, FR-700B

General Description

The FRU-3000/FR-700 Eurocard frame provides an economical and compact mechanical mounting system for IRT Eurocards and a power supply bus to reticulate power from a common low voltage power supply unit to all cards in the frame.

The FR-700 type of frame has been evolved over a number of years with minor material and cosmetic changes resulting in the three type numbers.

The FRU-3000 supersedes the FR-700 series frames and is totally backward compatible for all IRT 600 and 700 series modules. However, the FRU-3000 frame provides increased noise immunity to meet EMC regulations for ever increasing speeds of digital processing by the inclusion of top and bottom covers and additional power supply filtering.

A total of 12 standard IRT Eurocards and a PSU-3000 Dual 28V AC power module can be accommodated in one IRT FRU-3000/FR-700 3 Rack Unit Frame.

IRT Eurocard products are supplied in two parts; an electronics module complete with front fascia panel and a rear assembly, which provides the necessary connections to other equipment.

The electronics card and rear assembly are fitted with multipin mating connectors, allowing them to be directly connected. When assembled in the FRU-3000/FR-700 frame, a connector (on the frame's motherboard) is sandwiched between the two parts.

The rear assembly is screwed to the rear of the frame mating with pins extending from the motherboard connector.

The electronics module can be inserted or removed from the frame from the front mating with the motherboard connector and thence the rear assembly.

This method generally allows the electronics module to be inserted or removed without disturbing any wiring connected to the rear assembly. (In the case of particular modules special connections may either prevent this or may require special care.) Please consult installation instructions for each module for details.)

An extender card may be used to allow servicing of the module whilst it remains connected to the frame.

Technical Specifications
IRT Eurocard frame
Type FRU-3000/FR-700

Power distribution:		Dual 28 Vac CT (14-0-14) Maximum 2 x 80 VA	
Connectors:	Electronics modules	B64FWWAB DIN female 64 pin	
	Power module	BL5.08/05 female 5 pin Weidmüller (available from Farnell 963-057)	(FRU-3000)
		25.610.0553 female 5 pin	(FR-700/FR-700A/FR-700B)
Other:			
Temperature range		0 - 50° C ambient	
Mechanical		3 RU (482 mm x 132 mm) standard 19” rack frame Suitable for mounting in standard 19" racks	
Finish:	FRU-3000	Side plates and rear assembly mounting bars passivated mild steel. Other metal parts anodised aluminium.	
	FR-700	Natural anodised aluminium.	
	FR-700A	Side plates passivated mild steel; other metal parts anodised aluminium.	
	FR-700B	Side plates and rear assembly mounting bars passivated mild steel. Other metal parts anodised aluminium.	
Dimensions		482 x 132 x 253 mm (Frame empty). Clearance width 445 mm	
Optional accessories		TME-6 module extender card PSU-3000, PT-700 Dual power supply module (240 Vac) PSU-3005/110V Dual power supply module (110 Vac) PSU-3005/220V Dual power supply module (220 Vac)	

Circuit Description

The FRU-3000/FR-700 frame provides a distribution path for two AC supplies with a common centre-tap making a total of five power busses.

Connection to the outputs of the power supply module from the FRU-3000/FR-700 motherboard is via a flying lead fitted with a 5 pin polarised connector. No direct DC connection to chassis ground is made from these busses.

To minimise electromagnetic radiation from the power supply busses, RF bypass capacitors are distributed along the length of the motherboard. These reduce any RF interference induced in the supply rails by any individual module. Inductors are fitted in series with the low voltage AC busses at the power supply end to ensure that a minimum of RF interference is fed back into the mains supply via the power supply transformers. (Note that this only applies to the FRU-3000.)

Connection to modules is made via 64 pin DIN connectors as described in the general description above.

Connector pin designations are as follows:

5 pin power supply module connector:

Pin	Designation
1	AC/1 +
2	AC/1 -
3	CT/1 & CT/2
4	AC/2 +
5	AC/2 -

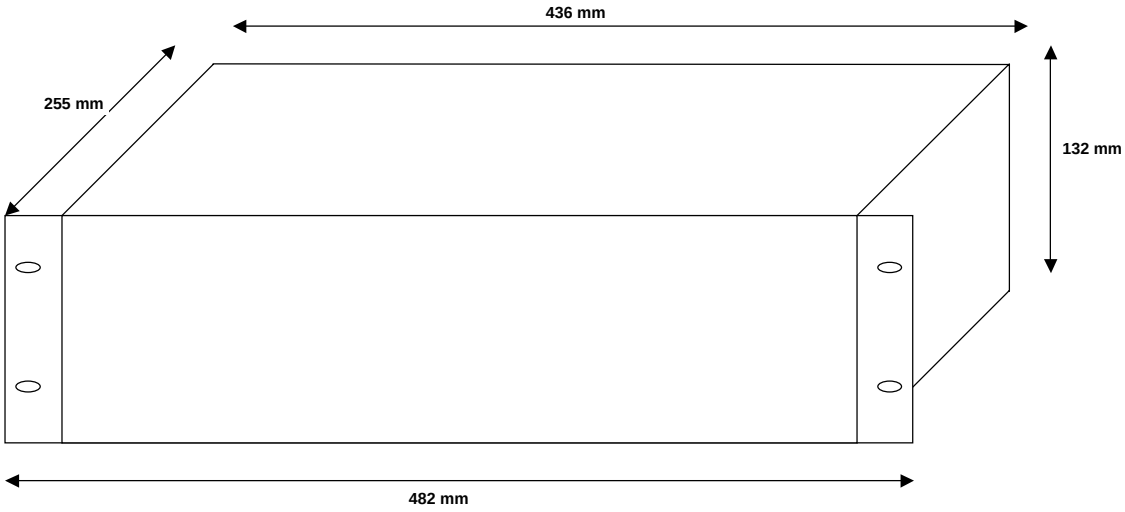
64 pin DIN Eurocard module connector:

Pins	Designation	Note
21a & 21b	AC/1 +	1
22a & 22b	AC/1 -	1
23a & 23b	CT/1 & CT/2	2
24a & 24b	CT/1 & CT/2	2
25a & 25b	AC/2 +	1
26a & 26b	AC/2 -	1

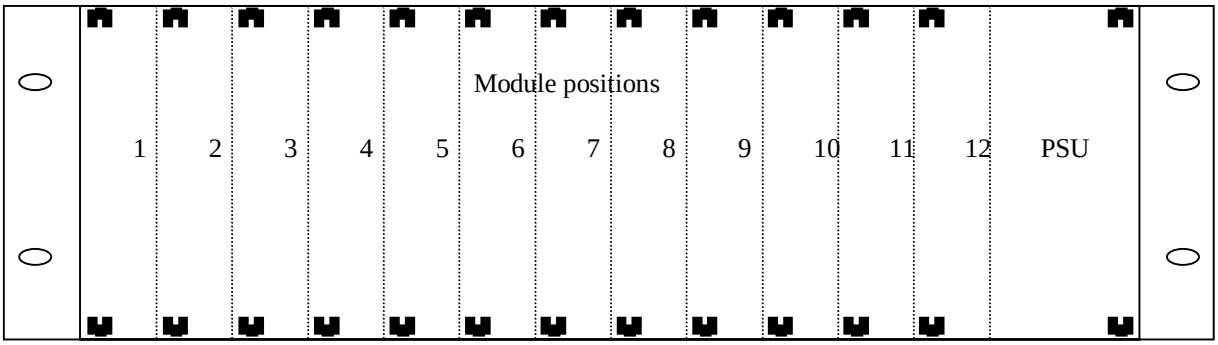
Notes:

1. These pins are cut short at the rear of the motherboard so that when a module rear assembly is attached there is no connection from these supply lines to the rear assembly PCB. This prevents accidental short circuits to the power supply and minimises RF cross coupling between supply and signal lines.
2. These pins connect to the rear assembly PCB and may form part of the signal grounding system for that module.

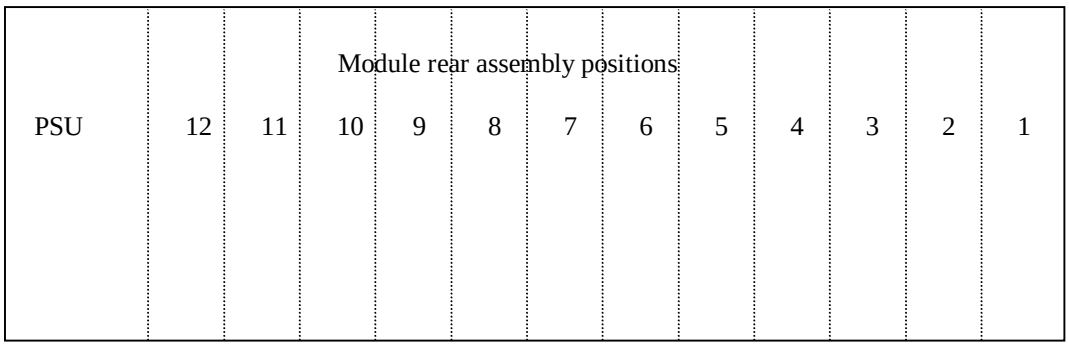
The following diagrams are not to scale and are intended only to show relative locations.



FRU-3000/FR-700/FR-700A/FR-700B Front View



FRU-3000/FR-700/FR-700A/FR-700B Rear View



Operational Safety:

WARNING

Operation of electronic equipment involves the use of voltages and currents that may be dangerous to human life. Note that under certain conditions dangerous potentials may exist in some circuits when power controls are in the **OFF** position.
Maintenance personnel should observe all safety regulations.

Do not make any adjustments inside equipment with power **ON** unless proper precautions are observed. All internal adjustments should only be made by suitably qualified personnel. All operational adjustments are available externally without the need for removing covers or use of extender cards.

The FRU-3000/FR-700 frame does not have a direct ground connection. It is strongly recommended that all frames be mounted in racks, which are connected to a suitable grounding point. When mounting the frame care should be taken to ensure a low impedance ground path between the frame and the rack.
The power supply module cannot be relied upon to make this connection.

FRU-3000/FR-700 Frame:

Eurocard Module
Slide the module into its appropriate position and tighten the two retaining screws.

Rear Assembly
Ensure that the rear assembly has the correct orientation and carefully place the back 64 pin connector over the pins extending from the rear of the appropriate module motherboard connector on the FRU-3000/FR-700. Slightly move rear assembly to ensure that all 64 pins are aligned to the holes in the rear assembly back connector. Press the rear assembly in the centre, then at the top and bottom until the rear assembly PCB touches the mounting rails at the top and bottom. Install the two retaining screws (Metric M2.5 x 4 mm).

Rear assemblies may be removed for maintenance. Make sure that extraction force is applied equally and steadily at the top and bottom of the rear assembly simultaneously.

If extraction force is not applied equally there is a good chance that the module connector pins will be bent making it very difficult to re-install the rear assembly.

Power Supply
The power supply module should be slid into its position at the extreme right of the frame. The four retaining screws on the front should be tightened.

Connect the lead, with the 5 pin connector; from the frame motherboard, to the connector on the rear of the power supply module.

Connect power input to power supply module as described in power supply handbook.

Due to its weight, if the frame is to be freighted for any purpose, the power supply should be removed and packed separately before shipment.

EMC
Due to EMC (electromagnetic compliance) standards, IRT recommends that all unused card positions be closed off using IRT front blanking panels, on the front, and rear blanking panels, on the rear, of the frame.

IRT Eurocard Frame

Type FRU-3001/FR-748A

General Description

The purpose of the FRU-3001 is to provide an economical and compact mechanical framing system for IRT Eurocards. The FRU-3001 supersedes the FR-748A and is totally reverse compatible.

In addition, the frame provides a power supply bus to reticulate power from one or two common low voltage power supply units to all cards in the frame.

A total of 10 standard IRT Eurocards and two power supply units can be accommodated in one IRT FRU-3001/FR-748A 3 Rack Unit Frame.

A choice of power supply units is available to provide power from either AC or DC supplies. Each supply is capable of supporting a full frame of cards on its own and AC and DC fed supplies may be mixed in the same frame.

IRT Eurocard products are supplied in two parts; an *electronics module* complete with front fascia panel and *a rear assembly*, which provides the necessary connections to other equipment.

The *electronics module* and *rear assembly* are fitted with multipin mating connectors allowing them to be connected directly together. When assembled in the FRU-3001/FR-748A frame, a connector on the frame's motherboard makes electrical contact between the two parts.

The *rear assembly* is screwed to the rear of the frame mating with pins extending from the motherboard connector.

The *electronics module* can be inserted or removed from the frame from the front. When inserted it mates with the motherboard connector and thence the *rear assembly*.

This method generally allows the *electronics module* to be inserted or removed without disturbing any wiring connected to the *rear assembly*. (In the case of particular modules special connections may either prevent this or require special care. Please consult installation instructions for particular modules for details.)

An extender card may be used to allow servicing of the module whilst it remains connected to the frame.

Technical Specifications
IRT Eurocard frame
Type FRU-3001/FR-748A

Power:

Input power:	AC	AC mains input (240 Vac ±10%) and / or
	DC	-48 Vdc ± 25%
Input power fuses	AC	SLO-BLO 500 mA.
	DC	Fused in PT-748A PSU module.
Output power to module bus:	AC	28 Vac CT (14-0-14) from PSU/3001/PT-701 and / or
	DC	± 16 Vdc from PT-748A

Connectors:

Electronics modules		B64FWWAB DIN female 64 pin fitted with C96SHROUD/046 C96 rear shroud.
Power module to frame		H15FP4 H15 female 4 mm PCB mounting.
Power input to frame	AC	IEC 320 with integral fuse holder.
	DC	Klippon MK 1/3 3 pin termination block 2616
Alarm outputs		

Other:

Temperature range	0 - 50° C ambient.
Mechanical	3 RU (482 mm x 132 mm) standard 19” rack frame. Suitable for mounting in standard 19" racks.
Finish:	Natural anodised aluminium frame with passivated steel rear power connection box with black silk-screened lettering.
Dimensions	482 x 132 x 253 mm (Frame empty.) Clearance width 445 mm
Optional accessories	TME-6 module extender card for Eurocard modules. PSU-3001, PT-701 single power supply module 240 Vac input, (Superseded by PSU-3006). PSU-3001/110V single power supply module 110 Vac input, (Superseded by PSU-3006). PSU-3001/220V single power supply module 220 Vac input, (Superseded by PSU-3006). PSU-3006 Selectable input single power supply module 240/220/130/110 Vac input. PT-748A single power supply module -48 Vdc input, (Quantity orders only).

Circuit Description

The FRU-3001/FR-748A provides a circuit path to the modules for two complementary supplies with a common reference making a total of five power busses. One complementary supply bus is obtained from each of the two PSU module locations. Each complementary supply bus may be either AC or DC according to the type of power supply module selected.

The power supply modules connect to the motherboard via special H15FP4 connectors. This allows the modules to be inserted or removed safely whilst power is applied to the frame inputs.

An alarm circuit is provided which connects to the two PSU's. When operating normally, the alarm is open circuit. When supply is lost the alarm line is grounded.

When both PSU's are installed, a failure of either PSU will activate the alarm.

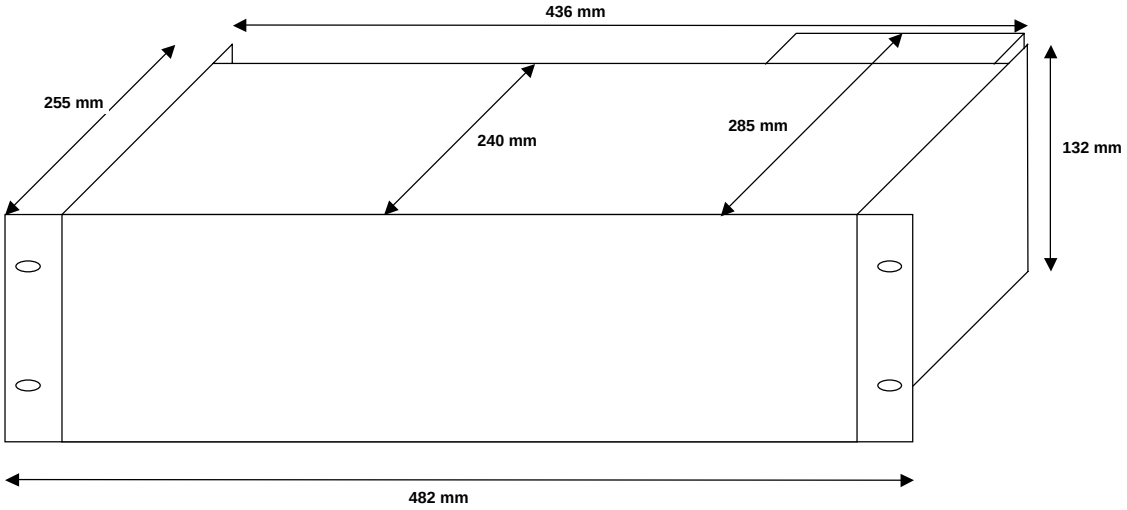
Connection to modules is made via 64 pin DIN connectors as described in the general description above.

Connector pin designations are as follows:

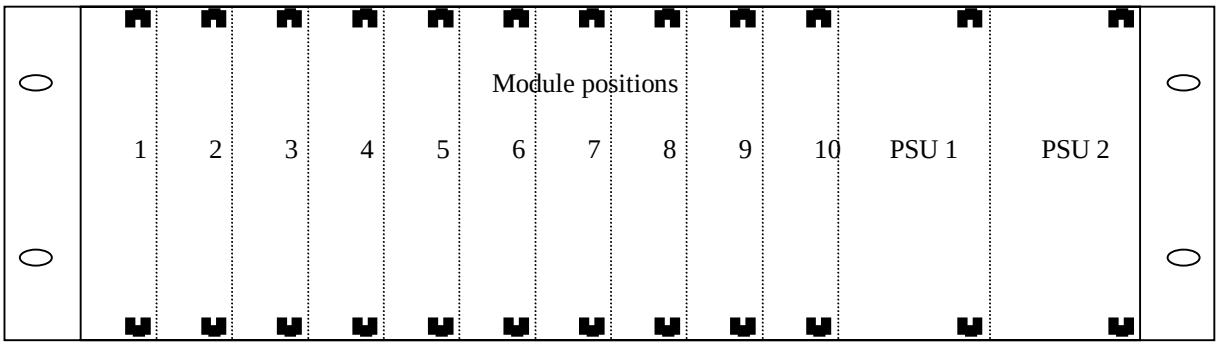
64 pin DIN Eurocard module connector:

Pins	Designation		
21a & 21b	AC/1 +	or	+16 Vdc/1.
22a & 22b	AC/1 -	or	-16 Vdc/1
23a & 23b	AC CT/1 & AC CT/2 & DC Ref./1 & DC Ref/2		
24a & 24b	AC CT/1 & AC CT/2 & DC Ref./1 & DC Ref/2		
25a & 25b	AC/2 +	or	+16 Vdc/2.
26a & 26b	AC/2 -	or	-16 Vdc/2

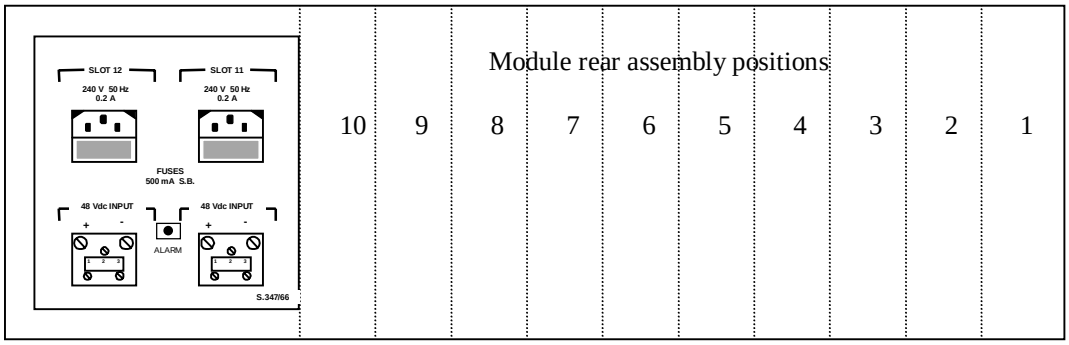
The following diagrams are not to scale and are intended only to show relative locations.



FRU-3001/FR-748A Front View



FRU-3001/FR-748A Rear View



Installation

FRU-3001/FR-748A FRAME:

Eurocard Module
Slide the module into its appropriate position and tighten the two retaining screws.

Rear Assembly
Ensure that the rear assembly has the correct orientation and carefully place the back 64 pin connector over the pins extending from the rear of the appropriate module motherboard connector on the FRU-3001/FR-748A. Slightly move rear assembly to ensure that all 64 pins are aligned to the holes in the rear assembly back connector. Press the rear assembly in the centre, then at the top and bottom until the rear assembly PCB touches the mounting rails at the top and bottom. Install the two retaining screws (Metric M2.5 x 4 mm).

Rear assemblies may be removed for maintenance. Make sure that extraction force is applied equally and steadily at the top and bottom of the rear assembly simultaneously.

If extraction force is not equally applied, there is a good chance that the module connector pins will be bent, making it very difficult to re-install the rear assembly.

Special Note – Fibre optic modules:

Some versions of the FR-748A 3 RU frame are shipped with shrouds fitted to the motherboard rear assembly connectors as required by contract specifications. These SHROUDS MUST BE REMOVED before optical modules can be fitted in that position. There is no need to remove shrouds from positions that will not be occupied by optical modules, although this will do no harm or effect performance in any way.

The shroud may be easily removed by undoing the attaching screws at the top and bottom of the shroud/connector. These may be replaced after the shroud is removed.

Warning

Optical Connections

The optical connectors on modules may be attached to the main module PCB, NOT the rear connector assembly.

When installing the optical fibre sufficient slack should be allowed for the module to be withdrawn with the optical fibre attached until the connector is clear of the frame and can be disconnected.

If this is not done, the module will not be able to be removed without first disconnecting the optical fibre at the rear. Attempting to remove the module without first disconnecting the fibre may result in damage to the fibre and / or the module.

Power Supply
The frame will operate with either one or two power supply modules installed.
The power supply module should be slid into either slot 11 or 12 at the right hand end of the frame. The four retaining screws on the front should be tightened.

Connect power input to rear of frame. For DC input, observe the polarity markings next to each connector.

Due to its weight if the frame is to be freighted for any purpose the power supply should be removed and packed separately before shipment.

EMC
Due to EMC (electromagnetic compliance) standards, IRT recommends that all unused card positions be closed off using IRT front blanking panels, on the front, and rear blanking panels, on the rear, of the frame.

IRT Eurocard Dual Power Supply Module

Type PSU-3000/PT-700

(Applies to units later than S/N 9411000)

General Description

The PSU-3000 is designed to provide two independent low voltage AC power supplies required for full redundant operation of up to 12 standard IRT Eurocard modules. The PSU-3000 supersedes the PT-700. The PSU-3000 uses a connector similar in appearance to the PT-700 however pin size varies. As such the PSU-3000 is not directly reverse compatible with the older style frames. A mating connector is supplied with the PSU-3000 for replacing the FR-600 and FR-700 connectors for complete compatibility.

Front panel LED indicators provide visual confirmation of the presence of each low voltage output.

Although primarily intended for operation in an IRT Eurocard frame such as the FR-700 or FRU-3000, the fully enclosed design allows the module to be used for bench testing of Eurocard modules with a suitable adapter lead.

The PSU-3000/PT-700 is available in 240 Vac / 50 Hz and 110 Vac / 60 Hz versions and is not configurable by the user.

Technical Specifications
IRT Eurocard Dual Power Supply Module
Type PSU-3000/PT-700

Power Requirements:

240 Vac / 50 Hz version:	Voltage	Dual 240 Vac ± 10% (Both supplies operational).
	Frequency	50 Hz ±10%
	Power	100 VA maximum each supply.
	Fuse	500 mA anti-surge.
110 Vac / 60 Hz version:	Voltage	Dual 110 Vac ± 10%(Both supplies operational).
	Frequency	60 Hz ±10%
	Power	100 VA maximum each supply.
	Fuse	1 A anti-surge.

Standards Approval: AS3260 approval no.: CS6443N.

Output: Dual 28 Vac centre tapped (14 - 0 - 14) fully loaded.
60 VA maximum each supply.

Connectors:	AC power input	IEC 320.
	AC output	Z5.598.4553 Socket 5 Pin.

Other:

Temperature range		0 - 50° C ambient.
Mechanical		Suitable for mounting in FR-700 & FRU-3000 rack frames.
Finish:	Front panel	Grey enamel, silk-screened black lettering & red IRT logo
	Body	Passivated steel with silk-screened black lettering.
Dimensions		60 x 127 x 240 mm.
Supplied accessories		IEC power input lead x 2.
Optional accessories:		
Mating output connector		25.610.0553 female 5 pin polarised connector (PT-700) SL5.08/05/180 female 5 pin Weidmüller (PSU-3000)

Circuit Description

The PSU-3000/PT-700 consists of two identical circuits, each of which provides a 28 Vac centre tapped output. The only common connections are the IEC input ground (earth) and the output centre taps.

The following describes one circuit only.
The IEC active (live) input is connected internally to a fuse housed in the IEC connector. The fused output is then fed directly to the transformer primary winding.

The transformer secondary output is connected to the rear low voltage output connector via a terminal strip.

The front panel LED power indicator is supplied from the output terminal strip with the full 28 Vac via a series resistor and is protected by a reverse polarity paralleled diode.

Pre-Installation:

Handling:

This equipment may be connected to static sensitive devices and proper static free handling precautions should be observed when disconnecting or reconnecting either the input or the output of the PSU.

Power:

Ensure that operating voltage of unit and local AC mains supply voltage match, and that correct rating fuse is installed for local supply.

Earthing:

Supply earth:
For safety reasons a connection is made between the IEC connector earth pin and the PT-700 chassis. No attempt should be made to break this earth connection.

When the PSU-3000/PT-700 is installed in the FR-700 or FRU-3000 frame a connection may be made between the above earth and the frame chassis. This "earth" connection may vary in quality and should not be relied upon as sufficient for the frame should this be required.

Power supply output earth:
No connection is made between the output connections of the PT-700 and earth within the PT-700 itself.

Signal earth:
When the rear assembly of a module is connected to the FR-700 or FRU-3000 frame, the signal earth of that rear assembly may or may not be connected to the chassis depending on the particular rear assembly design.
Power supply connections on the rear assembly are not connected to the signal earth on the rear assembly.

When a module is inserted into the FR-700 or FRU-3000 frame, a connection is made between the PSU-3000/PT-700 power supply centretap and signal earth. Depending on the particular module design, the signal earth may be connected to the front panel of the module and may therefore make a connection to the frame via the front securing screws.

This results in a central earth point on each module for power supply and signal.

If a "technical" earth is required for the system, this may be connected to the rack, frame and signal earth according to the requirements of each individual installation. For connection to the signal earth refer to details of rear assembly connections for particular modules installed in the frame.

Operational Safety

WARNING

Operation of electronic equipment involves the use of voltages and currents that may be dangerous to human life. Note that under certain conditions dangerous potentials may exist in some circuits when power controls are in the **OFF** position. Maintenance personnel should observe all safety regulations.

Do not make any adjustments inside equipment with power **ON** unless proper precautions are observed. All internal adjustments should only be made by suitably qualified personnel. All operational adjustments are available externally without the need for removing covers or use of extender cards.

Installation & Servicing

The PSU-3000/PT-700 contains no user serviceable parts inside and should not be opened.

In the event of failure of either supply the input operating voltage and IEC input connector fuse should be checked.

If fault persists the complete unit should be returned to IRT or your local agent for service.

FR-700 and FRU-3000 Frames:

The PSU-3000/PT-700 should be slid firmly into its position at the extreme right of the frame. The four retaining screws on the front should be tightened. Connect the 5 pin connector from the motherboard to the PSU-3000/PT-700 low voltage output connector.

There are two IEC320 style power input connectors on the PSU-3000/PT-700. Each is connected to a separate power transformer. Both need to be connected to the mains for redundant power supply operation. Note that the IEC320 connectors have inbuilt fuses. A spare fuse may also be stored inside the connector.

Due to its weight the PSU-3000/PT-700 can be damaged itself or cause damage to the frame if subjected to a large mechanical shock.

If the frame is to be freighted for any purpose, remove the PSU-3000/ PT-700 and pack separately before shipment taking care to ensure that protruding edges of front fascia panel are well protected.

For this purpose we recommend the use of plastic bubble packaging.

Performance:

The PSU-3000/PT-700 is designed to provide adequate power for an FR-700 or FRU-3000 frame equipped with its maximum of twelve Eurocard modules. During normal operation, this power is shared between the two supplies built into the PSU-3000/PT-700.

This performance is contingent on both power supplies being operational and the AC mains supply input being within the specified range.

If only one supply is operational and the AC supply voltage is low, module performance may be effected.

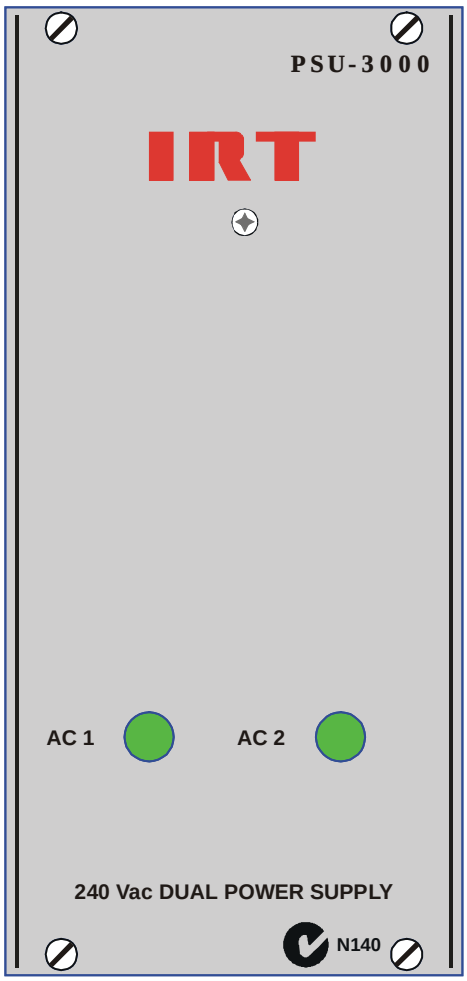
The provision of two power supplies is intended to provide continued operation, during failure of one supply, until the second supply is able to be restored. Continuous single supply operation is not recommended.

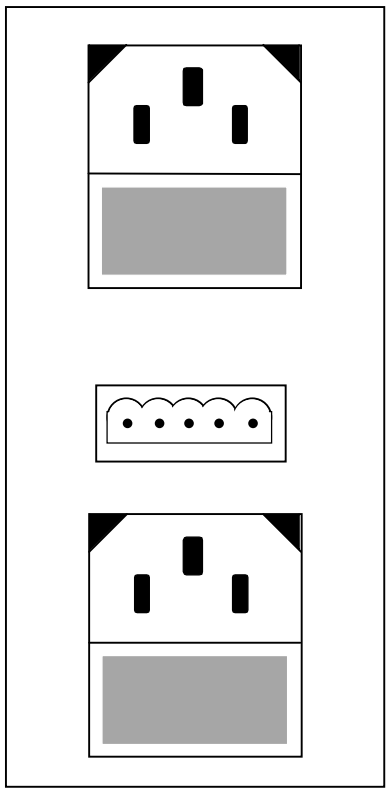
If the AC mains supply input is subject to wide fluctuation, a suitable stabilised source should be installed.

If it is continuously at the lower range of that specified, one of IRT's other PSU's with the required input voltage should be substituted for the PSU-3000/PT-700.

Front & rear panel connector diagrams

The following front panel and rear assembly drawings are not to scale and are intended to show relative positions of connectors, indicators and controls only.





IRT Power Supply for Eurocard

Type PSU-3001/PT-701

General Description

The PSU-3001 is designed to provide the low voltage AC power required for operation of up to 10 standard IRT Eurocard modules. The PSU-3001 supersedes the PT-701 and is fully reverse compatible with the PT-701.

Two PSU-3001/PT-701's can be operated redundantly when using an FRU-3001/FR-748A Frame. The redundant power supply facility of the PSU-3001/PT-701 is enabled in each IRT Eurocard module by having the power supply circuit of each module made up of two bridge rectifier circuits with the outputs connected in parallel. This allows the 28 Vac CT voltages to be sourced from either PSU-3001/PT-701.

A front panel LED indicator provides visual confirmation of the presence of the low voltage output.

An alarm relay is also included which will activate the alarm if either side of the AC output fails.

The PSU-3001/PT-701 is available in 240 Vac as standard and is not configurable by the user.
110 Vac and 220 Vac versions are available by including the suffix /110V or /220V.

Technical Specifications
IRT Eurocard Dual Power Supply Module
Type PSU-3001/PT-701

Power Requirements:

Voltage Dual 240 Vac ± 10%
Dual 110 Vac ± 10% (PSU-3001/110V)
Dual 220 Vac ± 10% (PSU-3001/220V)
Frequency 50 - 60 Hz ±10%
Power 100 VA maximum each supply
Fusing 500 mA anti-surge

Standards Approval: AS3260 approval no.: CS6346N

Output: 28 Vac centre tapped (14 - 0 - 14) fully loaded.
50 VA maximum.

Connectors: AC power input / DC output H15MFAV32 male, Faston

Other:

Temperature range 0 - 50° C ambient

Mechanical		Suitable for mounting in FR-748A or FRU-3001 rack frame
Finish:	Front panel	Grey enamel, silk-screened black lettering & red IRT logo
	Body	Passivated steel with silk-screened black lettering.
Dimensions		6 HP x 3 U x 230 mm

Circuit Description

The PSU-3001/PT-701 consists of a power transformer, which provides a 28 Vac centre tapped output.
When fitted to the FRU-3001/FR-748A frame the centretap connection is connected to ground and to the earth side of the two DC input connectors. Thus 14 - 0 - 14 Vac is supplied to the frame buss.
When fitted to the FRU-2300 frame the centretap is not connected and the full 28 Vac is supplied to the frame buss.

All connections to the module are made via a single multipin connector. Extreme care should be taken when working in the vicinity of this connector as it carries the live mains input voltage.

The front panel LED power indicator is supplied from the output with the full 28 Vac via a rectifier diode and series resistor.

The alarm relay is powered from the output rails, in parallel with the LED indicator, by way of a series 20 Volt zener diode. Thus if either rail fails there is insufficient voltage to operate the relay and the alarm will indicate the fault condition. A capacitor is provided across the DC relay supply to prevent relay chatter.

The alarm is shown in the un-energised position. When operating normally the alarm is open circuit. When supply is lost the alarm line is grounded.

Pre-Installation:

Handling:
This equipment may be connected to static sensitive devices and proper static free handling precautions should be observed when disconnecting or reconnecting either the input or the output of the PSU.

Power:
Ensure that operating voltage of unit and local AC mains supply voltage match, and that correct rating fuse is installed for local supply.

Earthing:
Supply earth:
For safety reasons a connection is made between the IEC connector earth pin and the FRU-3001/FR-748A and FRU-2300 chassis. No attempt should be made to break this earth connection.

When the PSU-3001/PT-701 is installed in the FRU-3001/FR-748A frame a connection will be made between the above earth and the PSU-3001/PT-701 chassis. This earth is also connected to the centretap output connection of the PSU-3001/PT-701.

When the PSU-3001/PT-701 is installed in the FRU-2300 frame a connection will be made between the above earth and the PSU-3001/PT-701 chassis. The 28 Vac output connection of the PSU-3001/PT-701 is supplied as a floating connection to the busses on the frame. The centretap is not connected.

Power supply output earth:
No connection is made between the output connections of the PSU-3001/PT-701 and earth within the PSU-3001/PT-701 itself.

Signal earth:
FRU-3001/FR-748A frame:
When the rear assembly of a module is connected to the FRU-3001/FR-748A frame, the signal earth of that rear assembly may or may not be connected to the chassis depending on the particular rear assembly design.
Power supply connections on the rear assembly are not connected to the signal earth on the rear assembly.

When a module is inserted into the FRU-3001/FR-748A frame, a connection is made between the PSU-3001/PT-701 power supply centretap and signal earth. Depending on the particular module design, the signal earth may be connected to the front panel of the module and may therefore make a connection to the PSU-3001/FR-748A frame via the front securing screws.

This results in a central earth point on <u>each</u> module for power supply and signal.

FRU-2300 frame:
The fully enclosed shielded box type modules, which mount in the FRU-2300, are connected to chassis ground by the front mounting screws.

Modules used in the FRU-2300 frame employ a full wave bridge rectifier across the 28 Vac of the PT-701 to develop a single sided +ve DC supply within each module. The AC output of the PSU-3001/PT-701 will thus be raised above ground.

A central earth point is provided on each module for power supply and signal.

General:
If a "technical" earth is required for the system, this may be connected to the rack, frame and signal earth according to the requirements of each individual installation. For connection to the signal earth refer to details of connections for particular modules installed in the frame.

Operational Safety:

WARNING

Operation of electronic equipment involves the use of voltages and currents that may be dangerous to human life. Note that under certain conditions dangerous potentials may exist in some circuits when power controls are in the **OFF** position.
Maintenance personnel should observe all safety regulations.

Do not make any adjustments inside equipment with power **ON** unless proper precautions are observed. All internal adjustments should only be made by suitably qualified personnel. All operational adjustments are available externally without the need for removing covers or use of extender cards.

Installation & Servicing

The PSU-3001/PT-701 contains no user serviceable parts inside and should not be opened.

In the event of failure of the supply, the input operating voltage and IEC input connector fuse should be checked.

If fault persists the complete unit should be returned to IRT or your local agent for service.

Performance:

One PSU-3001/PT-701 is designed to provide adequate power for an FRU-3001/FR-748A or FRU-2300 frame equipped with its maximum of ten Eurocard modules under normal conditions. During normal operation, this power is shared between the two supplies mounted in the frame.

This performance is contingent on two power supplies being operational and the AC mains supply input being within the specified range.

Where both an AC and DC supply are fitted in the one frame, the degree of load sharing will be dependent on the AC input voltage to the PT-701. This will directly effect its output voltage whereas the DC supply will continue to supply a constant voltage output over a wide range of input voltages.

If only one supply is operational or the AC supply voltage to one supply is low, module performance may be effected.

The provision of two power supplies is intended to provide continued operation, during failure of one supply, until the second supply is able to be restored. Continuous single supply operation is not recommended.

If the AC mains supply input is subject to wide fluctuation, a suitable stabilised source should be installed.
If it is continuously at the lower range of that specified, one of IRT's other PSU's with the required input voltage should be substituted for the PSU-3001/PT-701.

FRU-3001/FR-748A & FRU-2300 Frames:

The PSU-3001/PT-701 should be slid firmly into either of the two double width slots (11 & 12) at the right of the frame. The four retaining screws on the front should then be tightened.

Power to the PSU-3001/PT-701 is supplied from a connector located on the rear of the FRU-3001/FR-748A, immediately to the rear of the module.

Note that the IEC320 connectors have inbuilt fuses. A spare fuse may also be stored inside the connector.

The alarm output connector is located on the rear of the FRU-3001/FR-748A frame and is common to both supply units when installed. The alarms for both units are in parallel such that when a fault develops in either PSU the alarm output will be grounded.

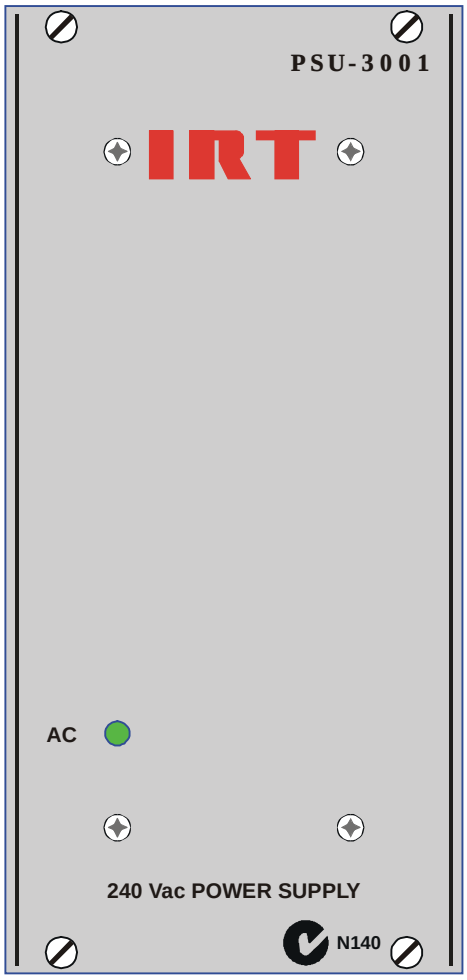
Due to its weight the PSU-3001/PT-701 can be damaged itself or cause damage to the frame if subjected to a large mechanical shock.

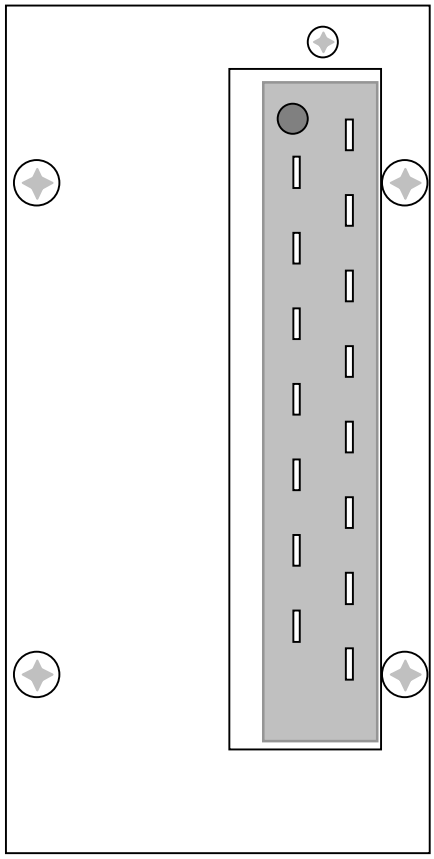
If the frame is to be freighted for any purpose, remove the PSU-3001/PT-701 and pack separately before shipment taking care to ensure that protruding edges of front fascia panel are well protected.

For this purpose we recommend the use of plastic bubble packaging.

Front & rear panel connector diagrams

The following front panel and rear assembly drawings are not to scale and are intended to show relative positions of connectors, indicators and controls only.





IRT Power Supply for Eurocard

Type PSU-3006

General Description

The PSU-3006 is designed to provide the low voltage AC power required for operation of up to 10 standard IRT Eurocard modules. The PSU-3006 supersedes the PT-701 and PSU-3001 and is fully reverse compatible with these power supplies. The PSU-3006 adds the facility of providing for selection of the AC mains input voltage by way of a selector switch on the side of the PSU.

Two PSU-3006's can be operated redundantly when using an FRU-3001 Frame. The redundant power supply facility of the PSU-3006 is enabled in each IRT Eurocard module by having the power supply circuit of each module made up of two bridge rectifier circuits with the outputs connected in parallel. This allows the 28 Vac CT voltages to be sourced from either PSU-3006.

A front panel LED indicator provides visual confirmation of the presence of the low voltage output.

An alarm relay is also included which will activate the alarm if either side of the AC output fails.

A voltage selector switch allows the PSU-3006 to be configured for 240V, 220V, 130V or 110V operation.

Technical Specifications
IRT Eurocard Dual Power Supply Module
Type PSU-3006

Power Requirements:

Voltage	240 Vac ± 10% 220 Vac ± 10% 130 Vac ± 10% 110 Vac ± 10%
Frequency	50 - 60 Hz ±10%
Fusing	500 mA anti-surge for 240V and 220V operation, 1000 mA anti-surge for 130V and 110V operation. Fuses are installed in the associated FRU-3001 frame.

Standards Approval: AS3260 approval no.: CS6346N

Output: 28 Vac centre tapped (14 - 0 - 14) fully loaded.
50 VA maximum.

Connectors: AC power input / AC output H15MFAV32 male, Faston

Other:

Temperature range		0 - 50° C ambient
Mechanical		Suitable for mounting in FRU-3001 rack frame
Finish:	Front panel	Grey enamel, silk-screened black lettering & red IRT logo
	Body	Passivated steel with silk-screened black lettering.
Dimensions		6 HP x 3 U x 230 mm

Circuit Description

The PSU-3006 consists of a power transformer, which provides a 28 Vac centre tapped output.

All connections to the module are made via a single multipin connector. Extreme care should be taken when working in the vicinity of this connector as it carries the live mains input voltage.

The front panel LED power indicator is supplied from the output with the full 28 Vac via a rectifier diode and series resistor.

The alarm relay is powered from the output rails, in parallel with the LED indicator, by way of a series 20 Volt zener diode. Thus if either rail fails there is insufficient voltage to operate the relay and the alarm will indicate the fault condition. A capacitor is provided across the DC relay supply to prevent relay chatter.

The alarm is shown in the un-energised position. When operating normally the alarm is open circuit. When supply is lost the alarm line is grounded.

Pre-Installation:

Handling:

This equipment may be connected to static sensitive devices and proper static free handling precautions should be observed when disconnecting or reconnecting either the input or the output of the PSU.

Power:

Set the Voltage selector switch for the correct input Mains voltage. Ensure that the correct fuses are installed in the associated FRU-3001 frame – 1000 mA anti-surge for 130 and 110V and 500 mA anti-surge for 220 and 240V operation.

Earthing:

Supply earth:

For safety reasons a connection is made between the IEC connector earth pin and the FRU-3001 chassis. No attempt should be made to break this earth connection.

When the PSU-3006 is installed in the FRU-3001 frame a connection will be made between the above earth and the PSU-3006 chassis. This earth is also connected to the centretap output connection of the PSU-3006.

Power supply output earth:

No connection is made between the output connections of the PSU-3006 and earth within the PSU-3006 itself.

Signal earth:

FRU-3001 frame:

When the rear assembly of a module is connected to the FRU-3001 frame, the signal earth of that rear assembly may or may not be connected to the chassis depending on the particular rear assembly design.
Power supply connections on the rear assembly are not connected to the signal earth on the rear assembly.

When a module is inserted into the FRU-3001 frame, a connection is made between the PSU-3006 power supply centretap and signal earth. Depending on the particular module design, the signal earth may be connected to the front panel of the module and may therefore make a connection to the PSU-3001 frame via the front securing screws.

This results in a central earth point on each module for power supply and signal.

Installation & Servicing

The PSU-3006 contains no user serviceable parts inside and should not be opened.

In the event of failure of the supply, the input operating voltage and IEC input connector fuse should be checked.

If fault persists the complete unit should be returned to IRT or your local agent for service.

Performance:

One PSU-3006 is designed to provide adequate power for an FRU-3001 frame equipped with its maximum of ten Eurocard modules under normal conditions. During normal operation, this power is shared between the two supplies mounted in the frame.

This performance is contingent on two power supplies being operational and the AC mains supply input being within the specified range.

Where both an AC and DC supply are fitted in the one frame, the degree of load sharing will be dependent on the AC input voltage to the PSU-3006. This will directly effect its output voltage whereas the DC supply will continue to supply a constant voltage output over a wide range of input voltages.

If only one supply is operational or the AC supply voltage to one supply is low, module performance may be effected.

The provision of two power supplies is intended to provide continued operation, during failure of one supply, until the second supply is able to be restored. Continuous single supply operation is not recommended.

If the AC mains supply input is subject to wide fluctuation, a suitable stabilised source should be installed.
If it is continuously at the lower range of that specified, one of IRT's other PSU's with the required input voltage should be substituted for the PSU-3006.

FRU-3001 Frame:

The PSU-3006 should be slid firmly into either of the two double width slots (11 & 12) at the right of the frame. The four retaining screws on the front should then be tightened.

Power to the PSU-3006 is supplied from a connector located on the rear of the FRU-3001, immediately to the rear of the module.

Note that the IEC320 connectors have inbuilt fuses. A spare fuse may also be stored inside the connector. The fuse should 1000 mA anti-surge for 130 and 110V operation and 500 mA anti-surge for 240 and 220V operation.

The alarm output connector is located on the rear of the FRU-3001 frame and is common to both supply units when installed. The alarms for both units are in parallel such that when a fault develops in either PSU the alarm output will be grounded.

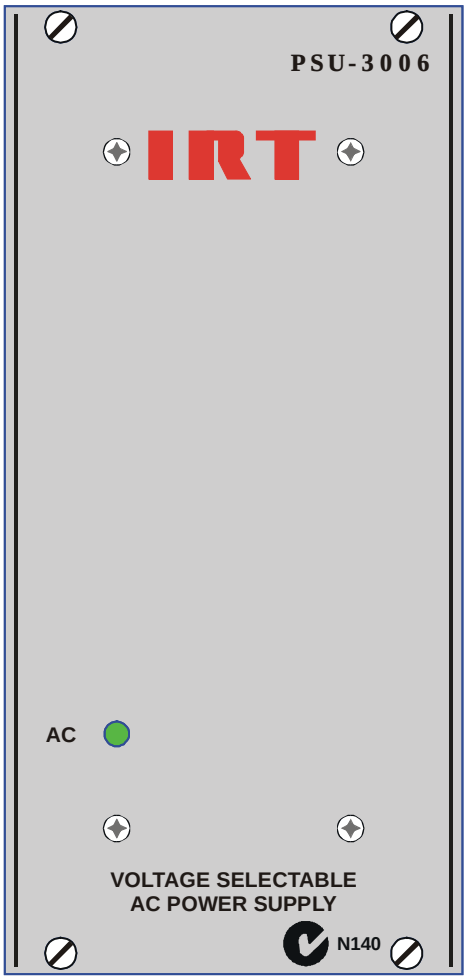
Due to its weight the PSU-3006 can be damaged itself or cause damage to the frame if subjected to a large mechanical shock.

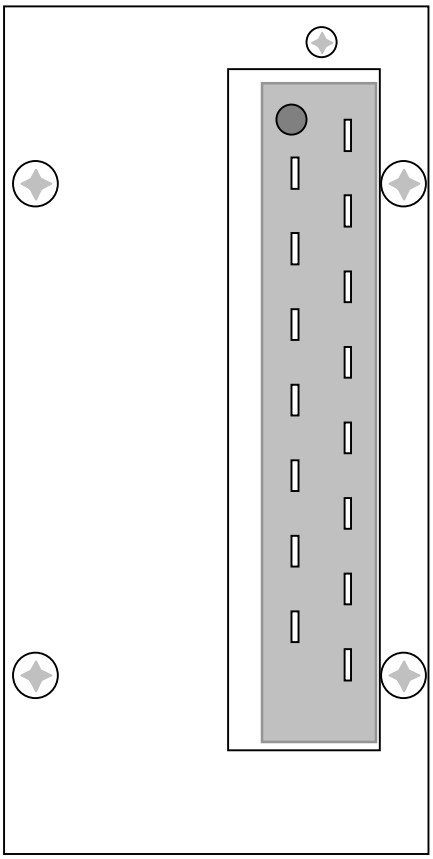
If the frame is to be freighted for any purpose, remove the PSU-3006 and pack separately before shipment taking care to ensure that protruding edges of front fascia panel are well protected.

For this purpose we recommend the use of plastic bubble packaging.

Front & rear panel connector diagrams

The following front panel and rear assembly drawings are not to scale and are intended to show relative positions of connectors, indicators and controls only.





IRT Power Supply for Eurocard
-48 Vdc to ±16 Vdc
Type PSU-3002/PT-748A

General Description

The PSU-3002/PT-748A is designed to provide complementary low voltage DC power supplies required for operation of up to 10 standard IRT Eurocard modules.

The IRT PSU-3002/PT-748A DC-DC converter converts a nominal 48V input voltage to two output supplies, one of +16V and the other -16V with respect to ground.

Two PSU-3002/PT-748A's can be operated redundantly when using an FRU-3001/FR-748A Frame. The redundant power supply facility of the PSU-3002/PT-748A is enabled in each IRT Eurocard module by having the power supply circuit of each module made up of two full wave rectifier circuits with the outputs connected in parallel. This allows the ±16V voltages to be sourced from either PSU-3002/PT-748A.

A front panel LED indicator provides visual confirmation of the presence of the low voltage output.

An alarm relay is also included which will activate the alarm if either +ve or -ve output fails.

The PSU-3002/PT-748A is available in -48 Vdc only and is not configurable by the user.

Technical Specifications

IRT Eurocard Dual Power Supply Module
Type PSU-3002/PT-748A

Power Requirements:

Voltage	48 Vdc ± 25% Positive ground.
Power	1.5 A maximum.
Fusing	1.5 A anti-surge

Output voltages: +16V @ 1.6A
-16V @ 1.6A

Connectors:	DC power input / output	H15MFAV32 male, Faston
Other:		
Temperature range		0 - 50° C ambient
Mechanical		Suitable for mounting in FR-748A rack frame
Finish:	Front panel	Grey, silk-screened black lettering & red IRT logo
	Body	Passivated steel with silk-screened black lettering.
Dimensions		6 HP x 3 U x 230 mm

Circuit Description

The PSU-3002/PT-748A consists of two DC-DC converter circuits, each of which provides a 16 Vdc output. The inputs are wired in parallel and the outputs differ only in the grounding of the positive or negative output of the converter.

The DC input circuitry consists of a safety fuse followed by a low value series resistance and overvoltage protection zener diode and a number of RF suppression components.

The front panel LED power indicator and alarm relay are powered from the output rails by way of a series 15 Volt zener diode. If either rail fails there is insufficient voltage to operate the relay and the LED dims sufficiently to indicate the fault condition.

The alarm is shown in the un-energised position. When operating normally the alarm is open circuit. When supply is lost the alarm line is grounded.

Pre-Installation:

Handling:

This equipment may be connected to static sensitive devices and proper static free handling precautions should be observed when disconnecting or reconnecting either the input or the output of the PSU.

Power:

Ensure that operating voltage of unit and local AC mains supply voltage match, and that correct rating fuse is installed for local supply.

Earthing:

Supply earth:

For safety reasons, a connection is made between the IEC connector earth pin, the DC input connector +ve pin and the FRU-3001/FR-748A chassis. No attempt should be made to break this earth connection.

When the PSU-3002/PT-748A is installed in the FRU-3001/FR-748A frame a connection will be made between the above earth and the PSU-3002/PT-748A chassis. This earth is also connected to the centretap output connection of the PSU-3002/PT-748A.

When the PSU-3002/PT-748A is installed in the FRU-2300 frame a connection will be made between the above earth and the PSU-3002/PT-748A chassis. The ±16 Vdc output connection of the PSU-3002/PT-748A is supplied as a floating connection to the busses on the frame. The centretap is not connected.

Power supply output earth:

A connection is made between the output common connection of the PSU-3002/PT-748A and chassis ground within the PSU-3002/PT-748A.

Signal earth:

FRU-3001/FR-748A frame:

When the rear assembly of a module is connected to the FRU-3001/FR-748A frame, the signal earth of that rear assembly may or may not be connected to the chassis depending on the particular rear assembly design.
Power supply connections on the rear assembly are not connected to the signal earth on the rear assembly.

When a module is inserted into the FRU-3001/FR-748A frame, a connection is made between the PSU-3002/PT-748A power supply ground and signal earth. Depending on the particular module design, the signal earth may be connected to the front panel of the module and may therefore make a connection to the FRU-3001/FR-748A frame via the front securing screws.

This results in a central earth point on <u>each</u> module for power supply and signal.

FRU-2300 frame:

Although the PSU-3002/PT-748A will physically fit into the FRU-2300 frame, it does not provide the correct voltages for the modules used in this type of frame. To prevent damage a PSU-3002/PT-748A plugged into an FRU-2300 frame will not make electrical contact and will be inoperable.

General:

If a "technical" earth is required for the system, this may be connected to the rack, frame and signal earth according to the requirements of each individual installation. For connection to the signal earth refer to details of connections for particular modules installed in the frame.

Operational Safety:

WARNING

Operation of electronic equipment involves the use of voltages and currents that may be dangerous to human life. Note that under certain conditions dangerous potentials may exist in some circuits when power controls are in the **OFF** position.
Maintenance personnel should observe all safety regulations.

Do not make any adjustments inside equipment with power **ON** unless proper precautions are observed. All internal adjustments should only be made by suitably qualified personnel. All operational adjustments are available externally without the need for removing covers or use of extender cards.

Installation & Servicing

The PSU-3002/PT-748A contains no user serviceable parts inside and should not be opened.

In the event of failure of either output, the input operating voltage and front panel input fuse should be checked.

If fault persists the complete unit should be returned to IRT or your local agent for service.

Performance:

One PSU-3002/PT-748A is designed to provide adequate power for an FRU-3001/FR-748A frame equipped with its maximum of ten Eurocard modules under normal conditions. During normal operation, this power is shared between the two supplies mounted in the frame.

This performance is contingent on two power supplies being operational and the AC mains supply input being within the specified range.
Where both an AC and DC supply are fitted in the one frame, the degree of load sharing will be dependent on the AC input voltage to the AC supply. This will directly affect its output voltage whereas the DC supply will continue to supply a constant voltage output over a wide range of input voltages.
Where two PSU-3002/PT-748A's are fitted in the one frame, the degree of load sharing will be dependent on the match in output voltages between the two supplies.

If only one supply is operational or the AC supply voltage to one supply is low, module performance may be affected.
The provision of two power supplies is intended to provide continued operation, during failure of one supply, until the second supply can be restored. Continuous single supply operation is not recommended.

If the AC mains supply input is subject to wide fluctuation, a suitable stabilised source should be installed.
If it is continuously at the lower range of that specified, one of IRT's other PSU's with the required input voltage should be substituted for the PT-701.

FRU-3001/FR-748A Frame:

The PSU-3002/PT-748A should be slid firmly into either of the two double width slots (11 & 12) at the right of the frame. The four retaining screws on the front should then be tightened.

Power to the PSU-3002/PT-748A is supplied from a connector located on the rear of the FRU-3001/FR-748A, immediately to the rear of the module. Care should be taken to observe the correct polarity as marked when connecting DC to this connector.

The alarm output connector is located on the rear of the FRU-3001/FR-748A frame and is common to both supply units when installed. The alarms for both units are in parallel such that when a fault develops in either PSU the alarm output will be grounded.

WARNING - Each PSU-3002/PT-748A dissipates up to 6 Watts and a full frame of ten VA-700's and two PSU-3002/PT-748A's dissipates up to 66 Watts. Ensure that adequate ventilation is available to keep down the operating temperature. If possible, at least 44.5 mm (1 RU) should be left clear above each frame.

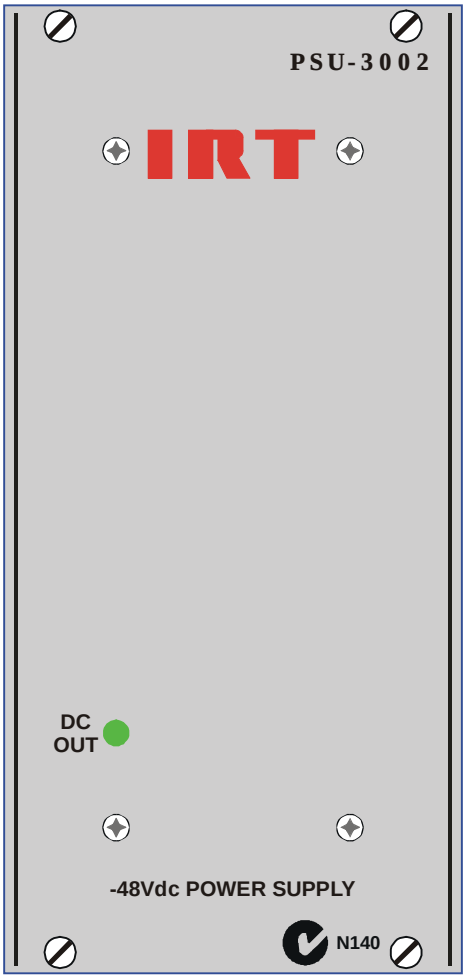
Internal adjustments:

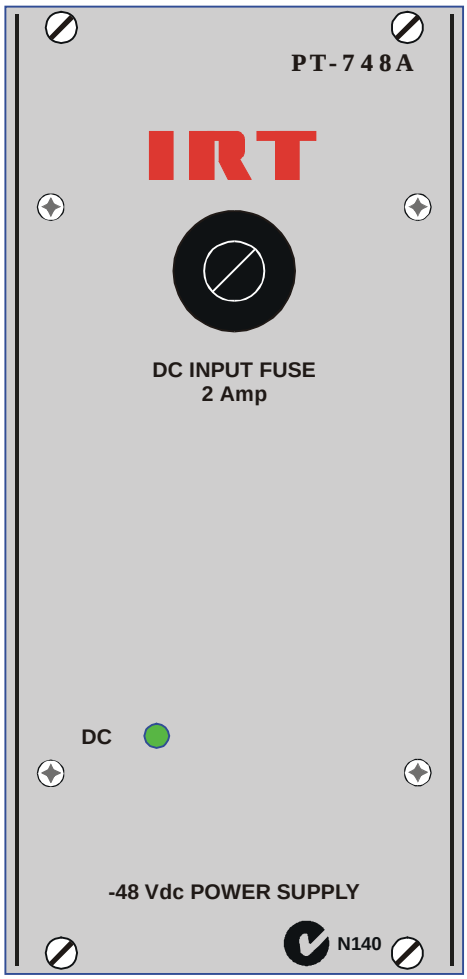
The PSU-3002/PT-748A is factory set for the correct output voltages and should not require re-adjustment unless one of the DC - DC converters is replaced.

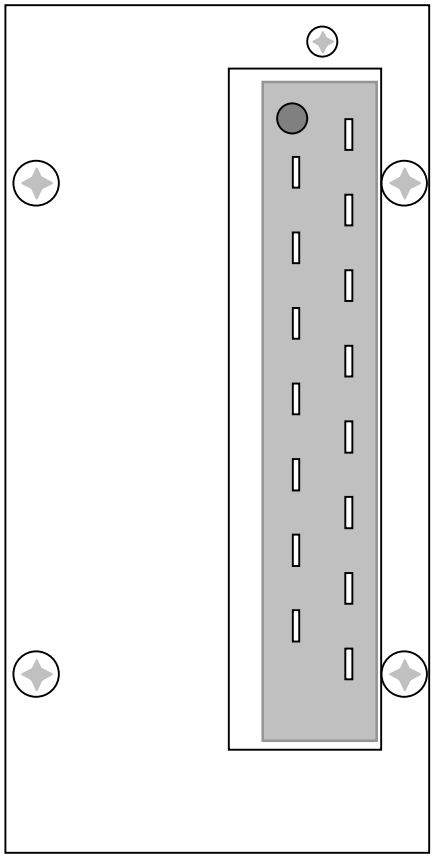
Adjust RV 1 for -16 Vdc
Adjust RV 2 for +16 Vdc

Front & rear panel diagrams

The following front panel and rear assembly drawings are not to scale and are intended to show relative positions of connectors, indicators and controls only.







IRT 1 RU Chassis Frame for Eurocards

Type FRU-1030

General Description

The FRU-1030 chassis with integral power supply provides a means of mounting either one or two IRT Eurocard modules in a single rack unit. This provides a convenient format for situations where only a small number of modules are required and space is at a premium.

The FRU-1030 differs from the FR-722A budget 1 RU chassis in providing full Eurocard rail mountings to allow ready installation and servicing of cards without removal of the frame from its rack. This also allows the TME-6 extender / test card to be used for servicing in situ.

The FRU-1030 is supplied with blank plates covering the right hand module position to enhance the safety and appearance of the unit when only one card is fitted.

A single power supply only is provided and so, if power supply redundancy is required, users should select one of IRT's 3 RU frames.

An input voltage selector switch is provided on the rear panel to allow operation on a range of input mains voltages.

Technical Specifications
IRT Eurocard frame
Type FRU-1030

Power requirements:

Voltage		110, 130, 220, 240 Vac ± 10% on selected voltage
Frequency		45 Hz - 65 Hz
Power		12 VA maximum
Fusing	220 - 240 Vac	250 mA anti-surge
	110 - 130 Vac	500 mA anti-surge

Output:

28 Vac centre tapped (14 - 0 - 14) loaded.
10 VA maximum

Connectors:

AC power input	IEC 320 with integral fuseholder.
AC output	2 x socket 3 Pin IDC 1300-103-426

Other:

Temperature range	0 - 50° C ambient
Mechanical	1 RU (482 mm x 44.5 mm) standard 19” rack frame Suitable for mounting in standard 19" racks
Dimensions	482 x 44.5 x 238 mm (frame empty.) Clearance width 442 mm
Finish:	APO grey enamel front panel. Bright finish passivated steel.
Standard accessories	IEC power lead.

Circuit Description

Refer to wiring diagram 803422 sheet 2 of 2.

The IEC active (live) input is connected internally to a fuse housed in the IEC connector. The fused output is then fed via the front panel power switch to the voltage selector switch and thence to the selected transformer primary winding.

The transformer secondary output is connected to a small printed circuit board that distributes the power to the installed modules via two flying leads fitted with 3 pin IDC connectors.

This distribution board also provides back to back diode protection against the signal earth (centre-tap connection) rising to an undesirable level above chassis earth.
This has been provided as insurance against situations where the installed Eurocard modules may not have their signal earth connected to ground at any point, such as occurs with domestic style double insulated video equipment.

> It is strongly recommended that where double insulated equipment is used that a proper connection be made between the signal earth and true ground earth at some point in the external circuit.

The front panel green neon power indicator is integral with the mains power switch which operates on both active and neutral paths. Operation on input voltages lower than the maximum 240 Vac will result in a lower intensity output of the power on indicator although it should still be sufficiently bright under normal lighting conditions.

Configuration

The transformer has multiple primary windings allowing configuration for the locally available mains input voltage.

Note that the voltage selector switch has positions for 150 and 260 Vac. These are not connected.

Before connecting power check that the voltage selector is in the correct position and that the correct rating fuse has been installed in the IEC connector fuse holder.

Operation on input voltages not matching the selected voltage may result in damage to the unit and any installed modules.

Always change the fuse when changing selection of input voltage.

Two fuses are supplied for each of the two main voltage ranges. One is used as the operating fuse. The other is spare and should be installed in the place provided inside the IEC input connector.

Fuses for other voltage settings should be put in a small plastic bag labelled 110 Vac fuses or 240 Vac fuses and taped to the rear of the chassis in a convenient location.

Installation of Modules

Before mounting, ensure that the IEC power connector is removed from the power input at the rear of the FRU-1030.

Locate flying power supply lead fitted with 3 pin IDC connector inside FRU-1030 chassis and pass through module mounting hole in rear panel.

Connect lead to the small 3 pin IDC plug provided on module side of rear assembly.

Fasten rear assembly to outside of FRU-1030 chassis with 2.5 mm x 6 mm pan head screws making sure that power connection with flying lead attached is located on the underside.

Slide the Eurocard module through the cutout in the front panel (making sure that the card is correctly located in the guide rails) with the component side uppermost and push until the 64 pin rear connector mates with the rear assembly.

Fasten the module front panel to outside of FRU-1030 chassis with the two screws from which the plastic washers were removed making sure that the assembly is properly aligned with the panel cutout.

Check that the correct mains input voltage has been selected and the correct fuse for that voltage is installed in the IEC connector housing. See *Configuration* section.

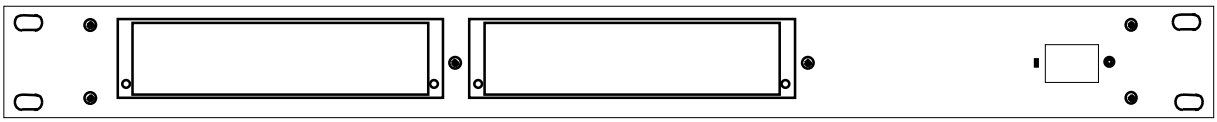
Mount the FRU-1030 in rack and connect the mains input lead to the IEC power connector.

EMC

Due to EMC (electromagnetic compliance) standards, IRT recommends that all unused card positions be closed off using IRT front blanking panels, on the front, and rear blanking panels, on the rear, of the frame.

Front & Rear panel diagrams:
The following front and rear panel diagrams are intended to show relative positions of controls and modules and are not to scale.

Front view:



Rear view:

Warranty & service

Equipment is covered by a limited warranty period of three years from date of first delivery unless contrary conditions apply under a particular contract of supply. For situations when "**No Fault Found**" for repairs, a minimum charge of $A100.00 will apply, whether the equipment is within the warranty period or not.

Equipment warranty is limited to faults attributable to defects in original design or manufacture. Warranty on components shall be extended by IRT only to the extent obtainable from the component supplier.

Equipment return:

Before arranging service ensure that the fault is in the unit to be serviced and not in associated equipment. If possible, confirm this by substitution.

Before returning equipment contact should be made with IRT or your local agent to determine whether the equipment can be serviced in the field or should be returned for repair.

The equipment should be properly packed for return observing antistatic procedures.

The following information should accompany the unit to be returned:

1. A fault report should be included indicating the nature of the fault
2. The operating conditions under which the fault initially occurred.
3. Any additional information which may be of assistance in fault location and remedy.
4. A contact name and telephone and fax numbers.
5. Details of payment method for items not covered by warranty.
6. Full return address.
7. For situations when "**No Fault Found**" for repairs, a minimum charge of $A100.00 will apply, whether the equipment is within the warranty period or not.

Please note that all freight charges are the responsibility of the customer.

The equipment should be returned **to the agent who originally supplied the equipment or, where this is not possible**, to IRT direct as follows.

Equipment Service
IRT Electronics Pty Ltd
26 Hotham Parade
ARTARMON
N.S.W. 2064
AUSTRALIA

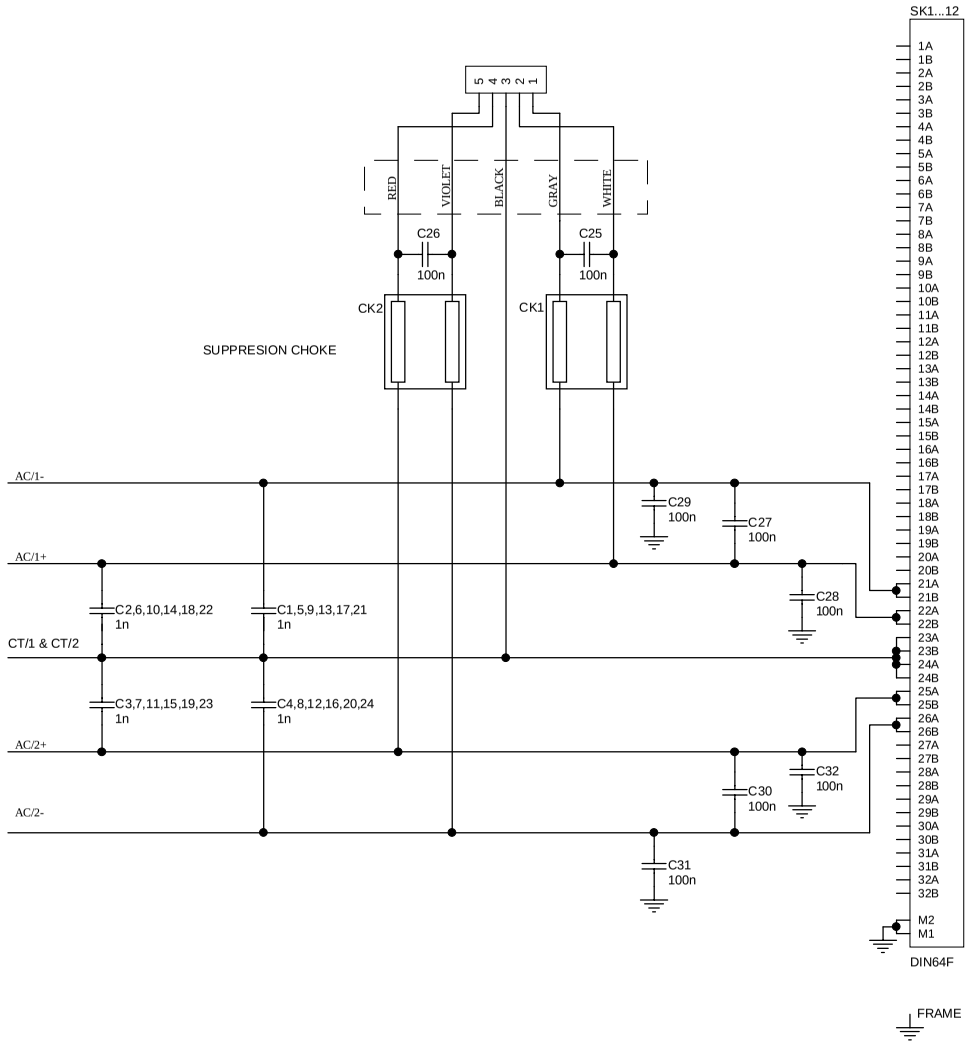
Phone: 61 2 9439 3744 Fax: 61 2 9439 7439
Email: service@irtelectronics.com

Drawing index

Drawing #	Sheet #	Description

Note: For PSU-3000 circuit diagram refer to PT-700 circuit diagram.
For FRU-3001 circuit diagram refer to FR-748A circuit diagram.
For PSU-3001 circuit diagram refer to PT-701 circuit diagram.

804401	1	FRU-3000 Eurocard frame
803360	2	PT-700 Power supply wiring diagram
803844	1	FRU-1030 wiring diagram.
804314	1	FRU-1030 with input filter - wiring diagram.
803658	1	FR-3001 Eurocard frame
803674	1	PT-701 Power supply schematic diagram
804528	1	PSU-3001/110 &/220 Vac Power supply schematic diagram
804531	1	PSU-3006 Power supply schematic diagram
804601	1	PSU-3002 schematic diagram
803655	1	PT-748A schematic diagram



1 29-02-2000

IRT

DRAWN SW	SIZE A3	Title FRU-3000	
ENG. APR.	SCALE N.T.S.	Drawing No. 804401	Sheet 1 of 1
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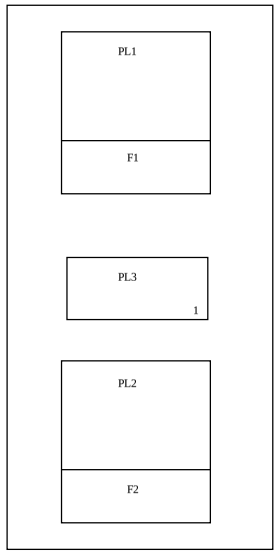
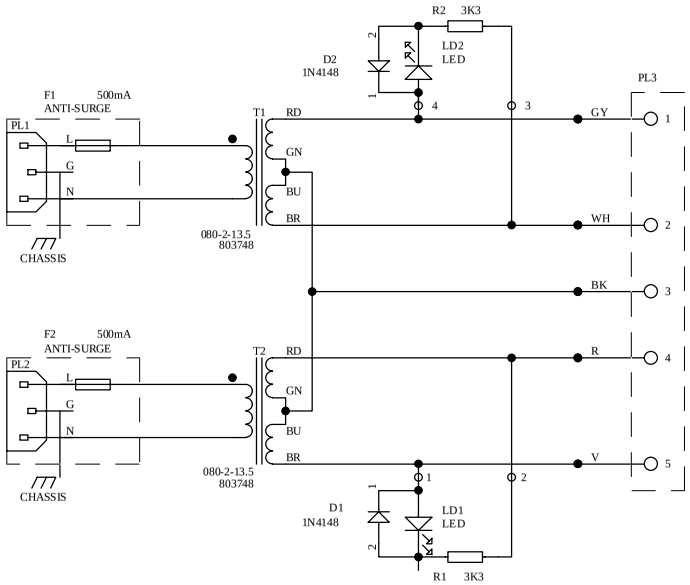
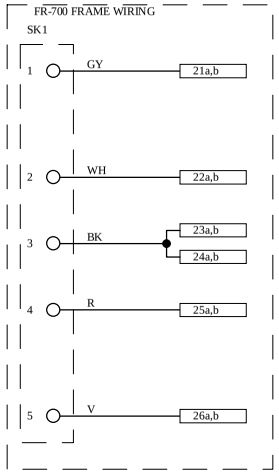
Revision: A		IRT Electronics Pty. Ltd. ARTARMON NSW AUSTRALIA 2064	
Date: 13-Feb-2001			



PT-700 REAR PANEL





2 14/11/94
3 13/12/94
ECN 466

DRAWN K.N.
CHECKED
ENG. APP.
CONTRACT No.

IRT

SIZE A4

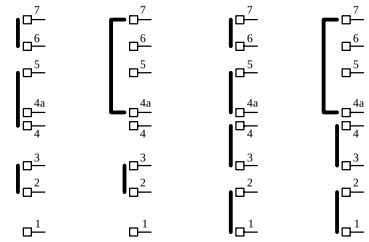
TITLE PT-700
POWER SUPPLY
WITH FR-700 CONNECTIONS

SCALE

DRAWING No. 803360

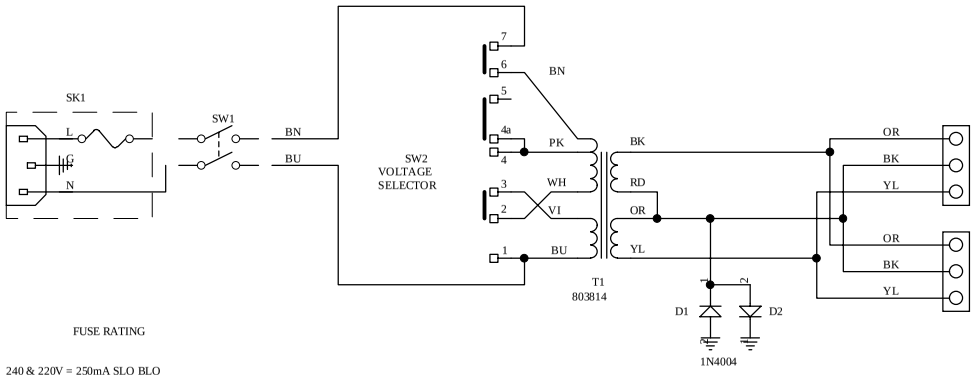
SHEET 2 OF 2

IRT Electronics Pty. Ltd.
ARTARMON NSW AUSTRALIA 2064



SW2 INTERNAL CONNECTIONS

POSITIONS 150 & 260 ARE INOPERATIVE



FUSE RATING

240 & 220V = 250mA SLO BLO

130 & 110v = 500mA SLO BLO

PC 803792 ISS 2 OR LATER

1 10/07/95

IRT

SIZE	TITLE FR-722A	
DRAWN RBB		
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ENG. APP.		
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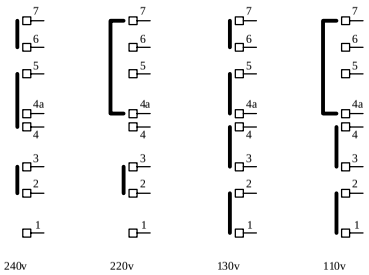

SW2 INTERNAL CONNECTIONS

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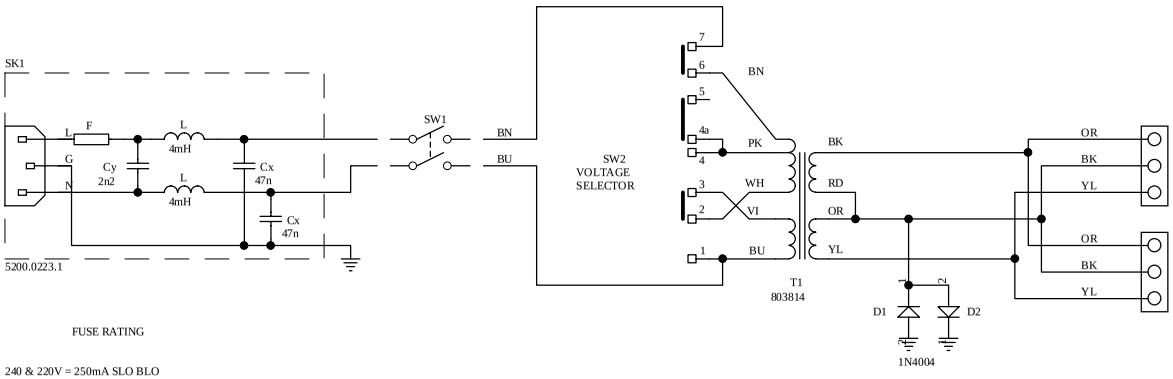

FUSE RATING

240 & 220V = 250mA SLO BLO

130 & 110v = 500mA SLO BLO

PC 803792 ISS 2 OR LATER

1 10/04/99

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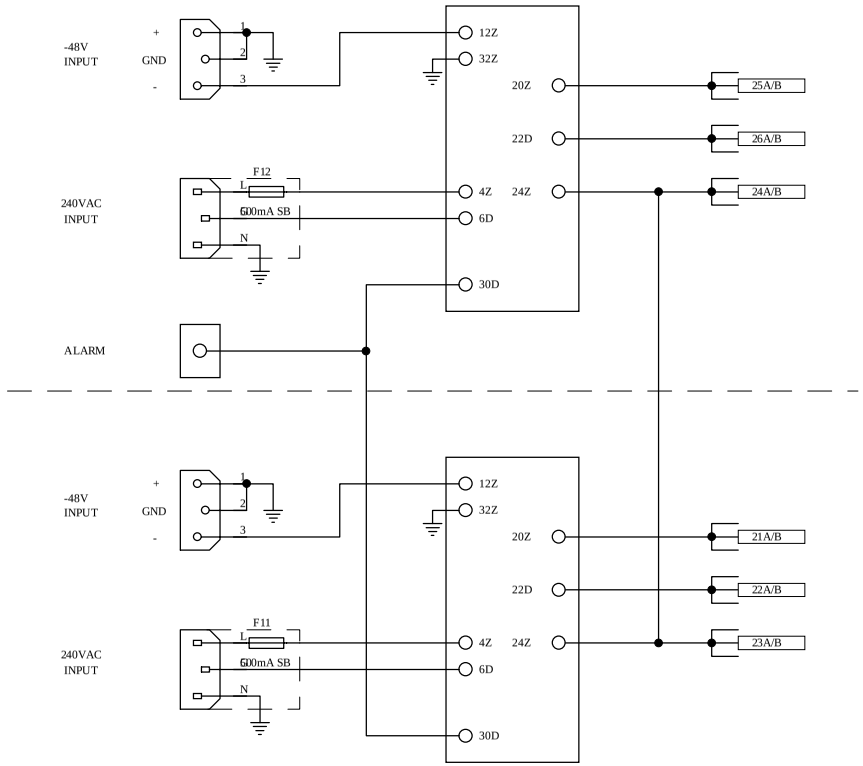
SLOT 12



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1 27/11/95

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ENG. APP.

CONTRACT No.

IRT

SIZE A3

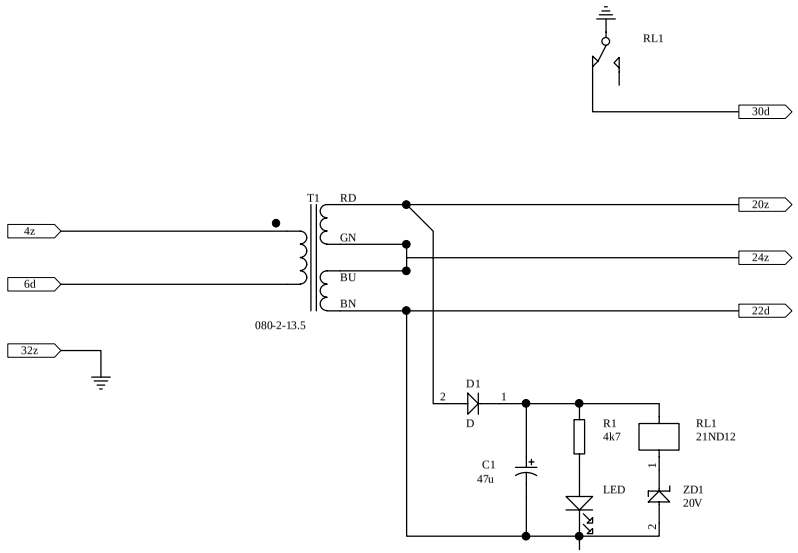
TITLE FR-748A FRAME

SCALE

DRAWING No. 803658

SHEET 1 OF 1

IRT Electronics Pty. Ltd.
ARTARMON NSW AUSTRALIA 2064



Transformer T1 is:

TORTECH Pty Ltd P/N 080-2-13.5 CS4567N

1	18/7/1994	ECN496
2	17/02/95	
3	30/06/95	

IRT

DRAWN	SIZE	TITLE PT-701
CHECKED	SCALE	DRAWING No. 803674
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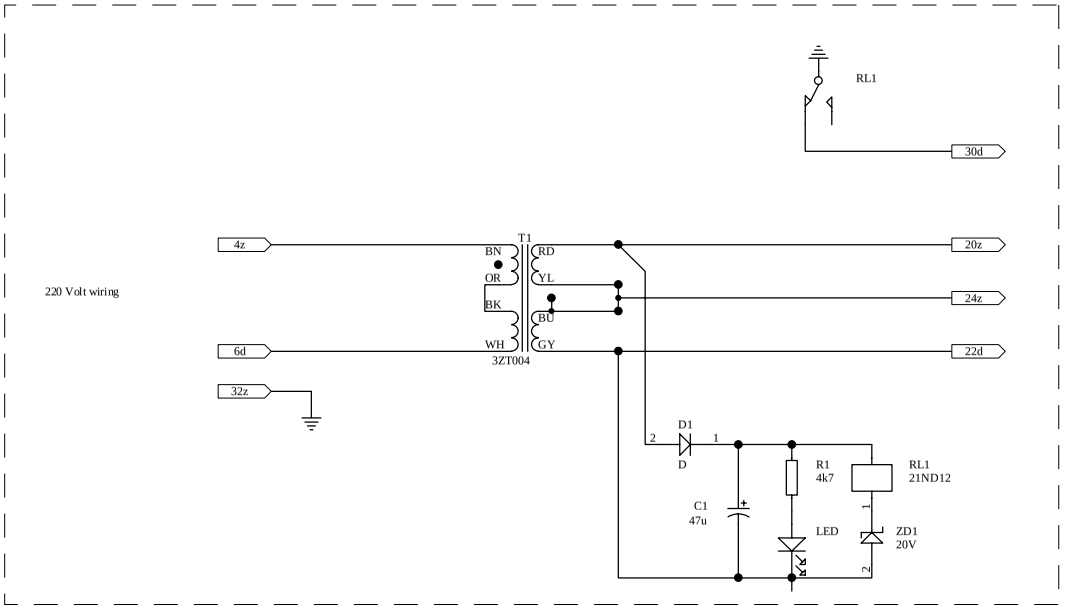
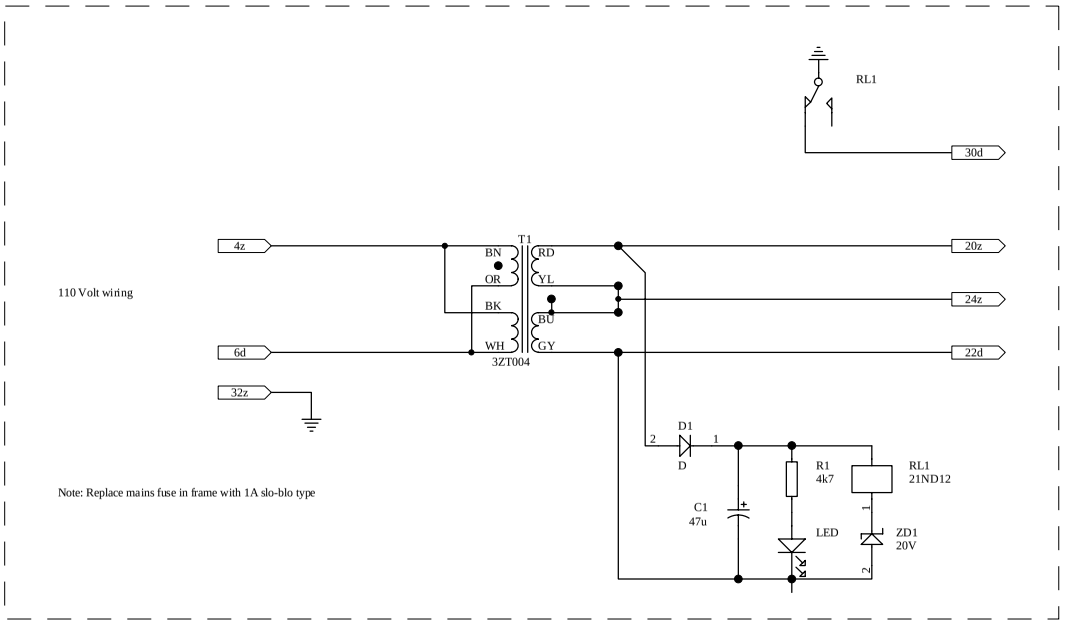
CONTRACT No.	IRT Electronics Pty. Ltd. ARTARMON NSW AUSTRALIA 2064	

PCB 803675





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DRAWN A.J.P.		
CHECKED	SCALE	DRAWING No.804528 — SHEET 1 OF 1
ENG. APP.		
CONTRACT No.	IRT Electronics Pty. Ltd. ARTARMON NSW AUSTRALIA 2064	

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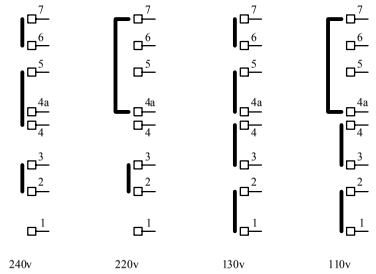

SW2 INTERNAL CONNECTIONS

POSITIONS 150 & 260 ARE INOPERATIVE

FUSE RATING

240 & 220V = 500mA SLO BLO

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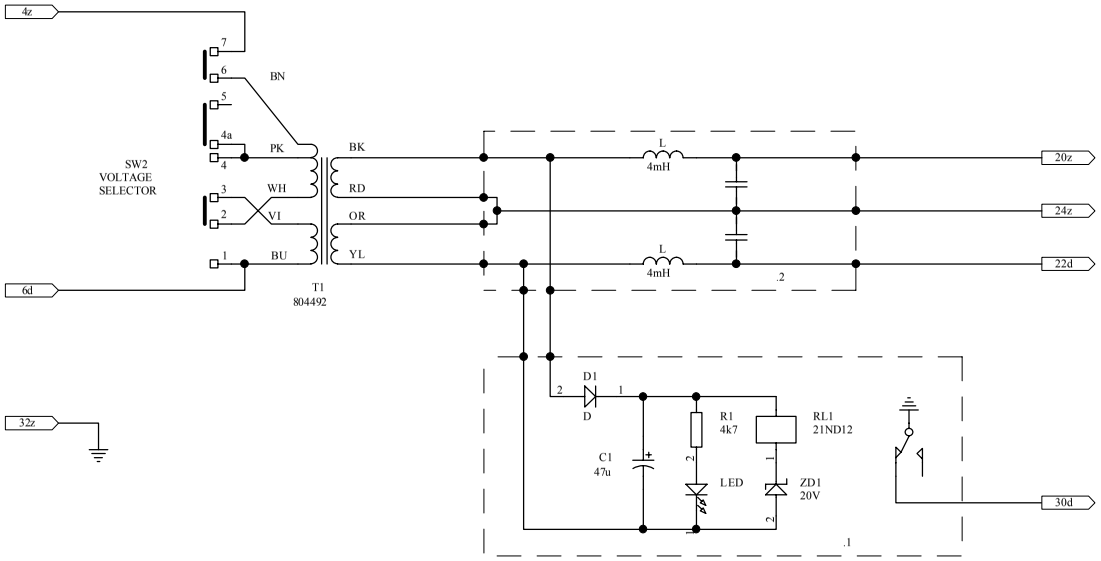

PC 803732 ISS 3 OR LATER

1 19/04/99

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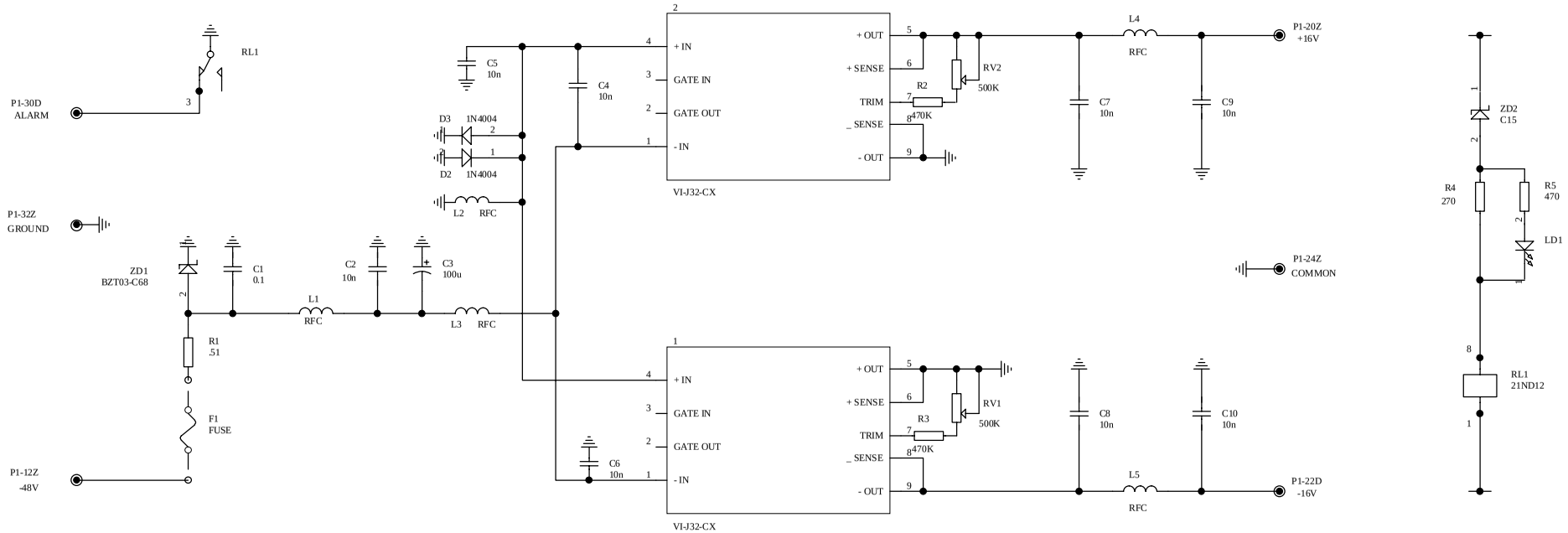

ADJUST RV2 FOR +16V

ADJUST RV1 FOR -16V

T(OP) = T(AMB) + 26

PCB 803656

1 31/5/1994

DRAWN RBB

CHECKED

ENG. APP.

CONTRACT No.

IRT

SIZE

TITLE PT-748A
DC-DC CONVERTER

SCALE

DRAWING No. 803655

SHEET 1 OF 1

IRT Electronics Pty. Ltd.
ARTARMON NSW AUSTRALIA 2064