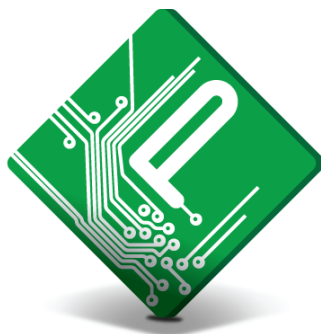


PERMACONN IP CSRU

Central Station Virtual Receiver Software



PERMACONN™
leaders in GPRS security technology

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1. General

The PERMACONN system provides two-way communications between monitored sites and the central station that collects this information using the latest GPRS technology. The Permaconn IP CSRU ‘Virtual Receiver’ module provides a connection to the Central Station for all Permaconn outstations via IP. It is intended to run as an active alternative path to the current GPRS based Central Station receiver 2000 (CSRU 2000).

The IP CSRU ‘Virtual Receiver’ package is supplied as a software bundle and requires a server style PC. The IP CSRU application will interface with most Central Station software automation systems such as SIMS, CAMS and ADSW. The IP CSRU ‘Virtual Receiver’ software bundle includes two (2) packages, IP CSRU ‘Virtual Receiver’ module and the ‘IP Receiver Status’ module.

WARNING

- INSTALLATION MUST BE CARRIED OUT BY SERVICE PERSONNEL ONLY.
- Australian Standard AS2201 requires regular service by qualified and licensed technicians and regular testing.
- The PC must be installed in accordance with this manual and AS2201 for proper operation.

STANDARDS COMPLIANCE

- In this manual, ‘AS2201.1’ refers to AS/NZS 2201.1:2007, ‘AS2201.5’ refers to AS/NZS 2201.5:2008 and ‘AS2201’ refers to the current issues of the AS2201 range of documents.
- In order to achieve compliance with AS2201.5, the terms of the current issue of the document ‘Permaconn AS/NZS 2201.5:2008 Compliance Statement’ must be met.
- Note that the **overall** alarm transmission system configuration needs to comply with AS2201.1 and AS2201.5.
- It is stressed that the supervised premises alarm panel is to be installed and maintained in order to meet Class (as relevant to the alarm transmission system classification) under AS2001. The logbook required under Clause 6.4 of that Standard is to remain current.
- The monitoring centre is to hold a copy of the documentation required at AS2201.5 Clause 2.3.
- The monitoring centre is to maintain ‘fault and maintenance logs’ in accordance with AS 2201.5 Clause 3.9.0n.

2. Features

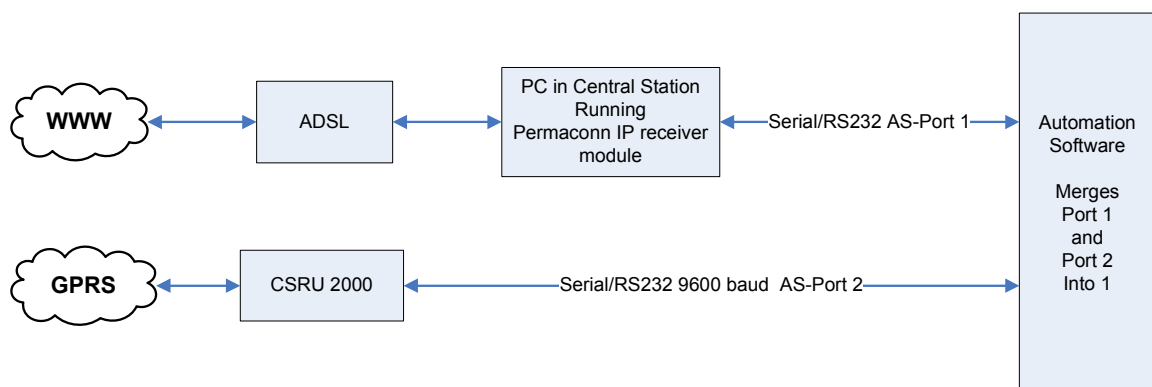
'IP CSRU Receiver' module

- Receives signals from PERMACONN outstations via IP.
- Handles up to 10,000 outstations.
- Reports operating status to Central Station automation software.
- RS232 or TCP/IP connection to the automation software.
- Requires supplied USB security dongle to be fitted on the PC at all times.

'IP Receiver Console' module

- Status of 'IP CSRU' Service is displayed by the 'IP Receiver Console'.
- Configuration settings of the 'IP CSRU Receiver' can be viewed & modified using this module.
- This module can be connected on any workstation/s that can connect to the 'IP CSRU' module via TCP/IP, otherwise it can run on the same PC as the 'IP CSRU' module.

3. Operation



The 'IP CSRU' Virtual Receiver will receive the Contact ID messages from the Permaconn servers via IP, located in secured data premises. All receivers installed within the Central Station will be active at all times and signals can arrive at all ports simultaneously, signals will not be duplicated. The automation software, or buffer software before it, must merge all of the data streams into one. The 'IP CSRU' module reports to the automation software using account code 8997 (default code - this can be changed by the Central Station), enabling complete fault / status monitoring of this software application.

4. Software Installation – Stage 1 - IP CSRU Module

Step 1:

Insert the supplied CD & the USB security dongle.

Step 2:

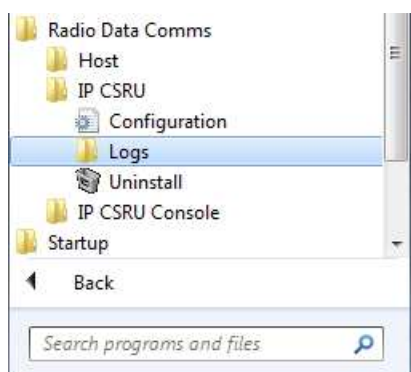
Run the *CSRU_Installer.exe* installer file to install the IP Receiver Service.

Administrator rights are required for this operation.

Next run the *CsruConsole_Installer.exe* installer file to install the IP Receiver Console.

Upon completion the programs will be located in the following location:

- ***C:\Program Files (x86)\Radio Data Comms\IP CSRU***
- ***C:\Program Files (x86)\Radio Data Comms\IP CSRU Console***



Detailed below are samples showing the content that is written into the respective log files.

Vapour Paper (VP) or Raw Data:

The receiver writes and time stamps all incoming data into \vp\vpymmdd.txt.

```
00:00:00.060 open
10:12:45.795 11 4915 18 E140 00 C501
10:12:54.962 11 4915 18 E140 00 C001
10:13:06.098 11 4915 18 E140 00 C502
10:13:15.161 11 4915 18 E140 00 C002
10:13:26.410 11 4915 18 E140 00 C503
```

Log File

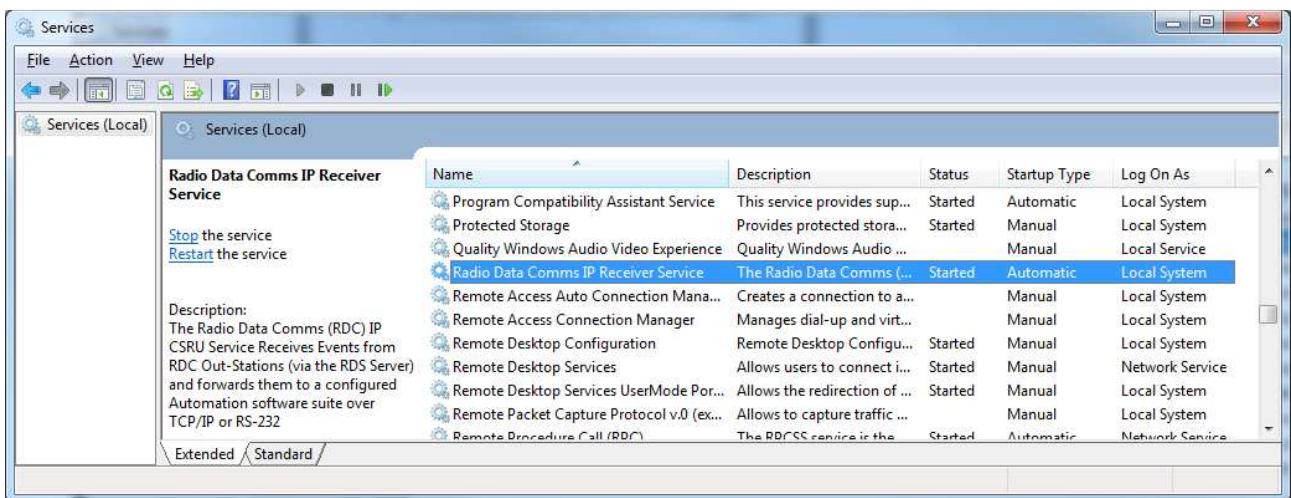
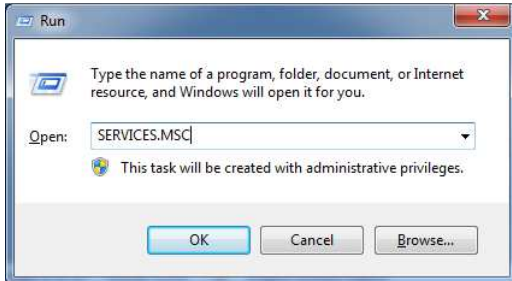
The log file records a variety of things useful for trouble shooting, as with the raw data, there is a daily file and the location and names are - \log\logyymmdd.txt.

```
08:31:43.976 Automation Software Link Down: P1[0] | Polling Halted
08:31:43.976 Automation Software Link Down: P2[0] | Polling Halted
08:32:04.608 Communication to automation software failed
08:44:02.349 Automation software socket is open
08:44:23.634 Communication to automation software restored
08:44:25.101 Sending: 22 bytes to: 192.168.6.26:45298 on: P1[0] - Poll Req
```

4. Software Installation – Stage 1 - IP CSRU Module.....cont

Step 3:

Open the Service control manager and ensure the RDC IP Receiver Service is running



Notes:

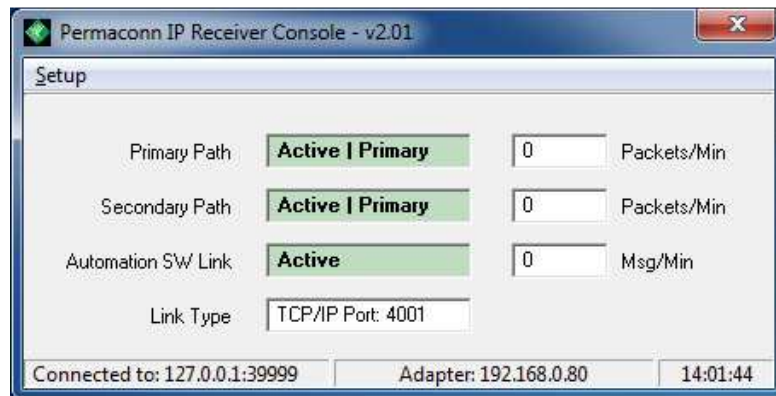
- Once this RDC IP Receiver Service is operating it requires no other action or control and will restart automatically when the server is restarted.
- The USB security dongle must remain in the host machine at all times. The service periodically checks for this dongle and will stop if not found.
- The security dongle uses a standard HID interface and should not require extra drivers.
- The IP Receiver Service will not poll the Permaconn servers until the link to the Automation Software has been established, this prevents the receiver from accepting events and having no way to deliver them.

The IP CSRU Receiver has now been fully installed.

5. Software Installation – Stage 2 – IP Receiver Console

Step 1:

Click on the 'IP Receiver Console' shortcut created in Radio Data Comms Start menu
The window shown below will now appear,



Primary Path and Secondary Path

The status displays the state of the connection between the Permaconn server and this receiver, it can show:

- **Active | Primary** – Link established to the Primary Server.
- **Active | Backup** - Link established to the Backup Server
- **Failed** - No successful server polls within the period of the timer value set in the Setup > "Permaconn CSR" > 'Poll Timer'.
- **Disabled** - This path is not being used.

Link to Automation Software

Similar to above, this displays the health of the link from the receiver to the automation software

- **Active** - Polls and messages are currently being sent to the automation software.
- **Failed** - No polls were received within the period of the timer value set in Setup > Permaconn CSR > 'Keep Alive Time Out" period.

Link Type

The connection to the automation software can be made using a RS232 serial port, or a TCP/IP connection.

Packets/Min

This field shows how many packets have been received within the last 60 seconds.

Msg/Min

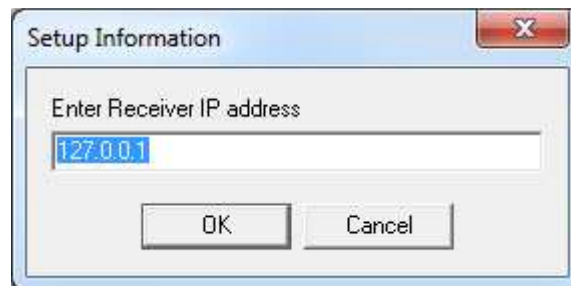
This field shows how many events have been sent to the automation software within the last 60 seconds.

Step 2:

Now click on the 'Setup' tab, you will have three (3) options available within the drop down menu, these windows are detailed below.

Receiver IP Address

- This is the address of the PC that runs the IP CSRU Service.



Receiver Port

- This is the port that the IP CSRU Service listens for the Console connection.



Permaconn CSR

- This window enables the installer to complete the installation process and requires all fields to be completed as detailed further in this manual.

The screenshot shows the 'Permaconn IP Receiver Setup' window. It is divided into several sections for configuration. The 'Central Station ID' is set to 90. The 'Automation Software Port Configuration' section includes 'Comms Link' (TCP/IP), 'AS Port' (4001), and 'CSRU IP' (127.0.0.1). The 'Automation Software Link Configuration' section includes 'ACK Time Out' (40), 'Receiver Line Number' (11), 'Keep Alive Time Out' (30), and 'Keep Alive String' (00 OKAY @). The 'Telco Network 1' tab is selected, showing 'IP CSRU Adapter Settings (P1)' with 'Adapter IP' (192.168.6.26) and 'Local Port' (55297). Below this, the 'Primary Server' section has 'Server IP' (203.45.70.112), 'Server Port' (55297), 'Account' (8998), and 'Poll Timer' (40). The 'Backup Server' section has 'Server IP' (0.0.0.0), 'Server Port' (0), 'Account' (8998), and 'Poll Timer' (40). 'Refresh' and 'Save Changes' buttons are at the bottom right.

Central Station ID

This is supplied by Radio Data Comms and cannot be changed.

Adapter IP

This allows the IP Receiver to bind to a specific IP if the target server has multiple network cards or IP addresses assigned.

Local Port

This is the local port number used by the IP Receiver when communicating with the Permaconn server. This can be set to the respective *Server Port* to reduce firewall issues.

Permaconn Server IP

This is the IP address of the Permaconn server. This address will be read from the supplied dongle.

Permaconn Server Port

This is the port number of the Permaconn server. This port will be read from the supplied dongle.

Account

This is the account number that the IP receiver uses to report its own status to the automation software. Currently the following is reported.

- Loss of polling
- Restore of polling

Poll Timer

This is the reload value of the poll timer, the interval at which the communications link is checked. The communication is considered as failed, if there was no signal for a period of 3 times the poll timer value. If the poll timer value is 0, then polling and consequently communications is not used. This value can not be changed.

Automation Software Link Type

The received events can be sent to the automation software, either by using the Ethernet (TCP/IP) or a standard RS232 serial connection.

Comm Port

Here you enter the communications port, serial port that you want to use to connect to the automation software.

Baudrate

Here you can select the data speed of the RS232 link:

- 1200
- 9600
- 19200
- 39400
- 115200

Flow control signals are not used and a simple 3 wire connection will work (RxD, TxD & GND).

IP Port of Automation Software

Enter the IP port that is use to make a TCP/IP connection to the automation server. Note that the receiver module acts as server, so the module will listen for incoming connection on this port.

Automation Software ACK Time Out

This setting determines how long the receiver waits before a signal is repeated. Note a signal is repeated until it is acknowledged by the automation software.

Keep Alive String

When the receiver receives a status request, a single character 's' or 'S', it will respond with this character string.

Keep Alive Time Out

The IP Receiver Status module constantly runs a watch dog timer to supervise the link to the automation software. If there was no communications for this amount of time, the link is considered as failed.

Receiver Number

This number identifies the receiver within the automation software, to differentiate different incoming lines and/or account blocks.

Save Changes

Activating this button will save the displayed values and close the setup screen. If the screen is closed any changes made will NOT be saved by the IP Receiver module.

NOTES:

- Within the 'IpCsrConsole.INI' file contained in the installation directory, typing in 'SETUP=YES' will enable the PC to view/change the parameters contained under the 'Permaconn CSR' tab. Default setting is 'YES'. If more than one PC runs the IP Receiver Console module it is highly recommended to have secondary PC's set to 'SETUP=NO'.

6. Permaconn Generated Events

TO COMPLY WITH AS2201.5 THESE EVENTS MUST BE MAPPED CORRECTLY IN THE AUTOMATION SOFTWARE.

In order to monitor and report the health of the system, the system must generate Contact ID messages to the monitoring centre software.

Special Events Generated By Permaconn Outstation

Event ID	Partition	Zone	Description
300	0	956	Panel Faulty - No activity detected from alarm panel indicating possible problem with panel.
301	0	950	Mains Fail – No AC power available.
302	0	951	Battery Low – Battery voltage is low or absent.
313	0	953 & 954	Engineering Reset (changed encryption key) – No action required.
337	0	950	Expansion Module DC Loss – 13.8V DC voltage low or absent.
338	0	951	Expansion Module Battery Fail – Battery voltage is low or absent.
350	0	953	Fail To Communicate – Permaconn experienced trouble sending signals do not expect restore.
351	0	954 & 956	Phone Line Fail.
352	0	955 & 956	Dialler Interface Lead Fail – Issue with dialler lead between Permaconn unit and the alarm panel.
353	0	956	Serial Interface Fail – Issue with Permaconn unit serial connection to the alarm panel.
356	0	968	Permaconn Outstation - IP path poll fail.
356	0	969	Permaconn Outstation – GPRS path poll fail.
356	0	970	Permaconn Outstation – Permaconn outstation is offline.
137	0	983	Tamper – Permaconn box tamper.
140	0	981	Auxiliary 1 – Auxiliary input on Permaconn unit.
140	0	982	Auxiliary 2 – Auxiliary input on Permaconn unit.
140	0	983	Auxiliary 3 – Auxiliary input on Permaconn unit.
140	0	984	Auxiliary 4 – Auxiliary input on Permaconn unit.

Events Generated by the IP CSRU account numbers*

*Account	Event Id	Partition	Zone	Description
*????	301	00	950	Mains fail
*????	302	00	951	Battery low
*????	334	00	967	Off Line / Poll fail
*????	140	00	968	Printer Off Line

**The account codes described here are dependant upon client configuration on the IP Receiver Console under [Account] – [CSR] – [SETUP] menu's.*

Special Events Generated By Safelinq GPS Hardware

E140	00	991	Zone Out
R140	00	991	Zone In
E120	00	984	Emergency
E/R140	00	990	Motion Shock
E400	00	990	Power off
R400	00	990	Power On
E400	00	991	Fake Power Off
R400	00	991	Fake Power On
E302	00	951	Battery Low
R302	00	951	Battery Charging
E140	00	994	Position By Button 1
R140	00	994	Position By Button 2
E140	00	998	Position By Button 3
R140	00	998	Position By Button 4
E601	00	991	Trace by call
E140	00	992	Speed Alert
E140	00	996	Sim Swap
E602	00	991	Cycle
E400	00	992	Ignition On
R400	00	992	Ignition Off
E140	00	995	Intrusion Detection
E140	00	996	Geofence
E140	00	997	No Motion
E/R140	00	993	Tow

7. Protocol to Automation Software

The IP_CSRU module delivers both formats specified below.

Ademco 685 receiver format.

<LF>RN.AAAA.18.EXXX.GG.CYYY.<CR>

Extended Contact ID Format

The changes to the format are very simple

- Replace the last space character with '@'
- Insert the desired string, a maximum of 58 characters
- End the transmission with a carriage return.

<LF>RN.AAAA.18.EXXX.GG.CYYY@<58 ASCII Characters><CR>

Field	Comment
<LF>	Line feed (0x0A)
<CR>	Carriage Return (0x0D)
.	Space (0x20)
RN	2 digit receiver number
18	2 digit protocol ID
AAAA	4 digit account code, 0'000 – 9'999
E	1 digit event (1 Alarm, 3 Restore, 6 Previous)
XXX	3 digit event ID
GG	2 digit group ID
C	C for point, U for Open/Close
YYY	3 zone ID
@	Extended format marker
<....>	Maximum of 58 characters of text

- Maximum string length is 84 characters, including LF and CR
- Address/text field contains ASCII characters 0x20 – 0x7F only