

Charon I - UDP Broadcast

HW: Charon I, Converter FW - version 2F or higher

SW: Hercules SETUP Utility, 2.6.1c or higher

External .brf file for the UDP Broadcast packet definition

With this configuration, you can send Broadcast UDP packet from your PC, to more Charon I modules. Data from this packet are immediately transfer to the serial port.

You can send UDP Broadcast from your PC using the Hercules SETUP utility in the UDP Tab. Packet is defined in the header of external .BRF file.

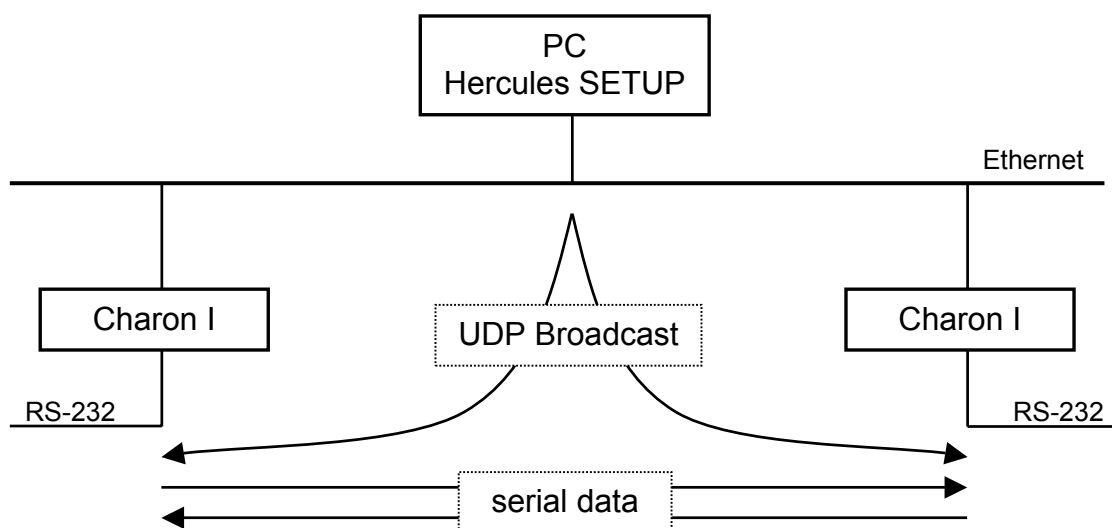
The Charon I FW have to be configured in the UDP mode with enabled UDP Broadcasting (T: IP mode UDP (broadcast Rcv On)).

Charon I data processing

- **Transmitting incoming RS-232** data to defined IP address and port
- **Receiving incoming data from the Ethernet** and sending them to the RS-232 port
- Data from every **UDP Broadcast** packet in defined format are send to the RS-232 serial port outgoing queue.

There is defined in the UDP Broadcast header receiving UDP port of the module. If there is set another incoming UDP/IP port in the Charon I module, data in the UDP Broadcast are not used.

Configuration



.BRF file format

```
# Module IP address - one of the modules on the network
IP=192.168.6.27
# Module net mask - your's PC mask
MASK=255.255.255.0
# Module port - Module's receiveing UDP port
PORT=4023
# Local port - PC outgoing UDP port
LOCALPORT=4023
# Sent data
DATA=(c)HW-server.com - How are you ???
```

Where to use in the Hercules SETUP utility

The screenshot displays the Hercules SETUP utility by HW.cz, specifically the UDP Setup tab. The interface includes several sections:

- Received data:** A text box showing the received data: `</broadcast/charon/ttyS0>(c)HW-server.com AHOJ TO: JAK se VedEd ??????????????????</broadcast/charon/t: JAK se VedEd ??????????????????</broadcast/charon/t: JAK se VedEd ??????????????????</broadcast/charon/t: JAK se VedEd ??????????????????`
- Sent data:** A text box showing the sent data: `dfgdfgeg
bnmnbmnbnnmbnmbnmbnmbnmkjhkhjhkhjhkhkhjkgjhggjjgh
ggjjghfhggjjghjhjh`
- UDP configuration:** Fields for Module IP (192.168.6.27), Port (4023), and Local port (4023). Buttons for "Open" and "Close" are visible.
- TEA authorization:** Fields for TEA key components 1-4, with values: 1: 01020304, 2: 05060708, 3: 090A0B0C, 4: 0D0E0F10.
- Server settings:** A checkbox for "Server echo" which is unchecked.
- UDP broadcast:** A "File name" field containing "D:\0\example.brf" and a "Send" button. This section is circled in red.
- Send section:** Three input fields for sending data, each with a "HEX" checkbox and a "Send" button.

The HWgroup logo and version information (Hercules SETUP utility Version 2.6.1c) are located in the bottom right corner.

Charon I module 1 – RS-232 Setup listing

```
*** HW-group.com HW 6.0 SW 2.F #01 ***
MAC Address          00:0A:59:01:9B:F8
===== IP Setup =====
I: Address           192.168.6.27
J: Port              4023
M: Mask              255.255.255.0
G: Gateway           192.168.6.254
===== In IP access filter =====
W: Address           0.0.0.0
N: Mask              0.0.0.0
X: Port              0.0
Y: Port Mask         0.0
== Active (Client/Server) mode ==
S: Send to IP        192.168.6.8
U: Port              4023
T: IP mode           UDP (broadcast Rcv On)
E: Erase buffer on   None
A: Max. Packet Length 80
Press <Enter> to continue
===== Serial Setup =====
&B: Speed            9600
&D: Data bits        8
&P: Parity           NONE
&V: Variable Parity  Off
&S: Stop bits        1
&C: Flow Control     NONE
&R: RS485/RS422 control RTS = On [+8V]
&T: Serial Line Timeout 10 (chars) [10.416 ms]
&G: Char. Transmit Delay 0 - Off
&H: Tx Control       Tx FULL duplex
%S: TCP/IP setup     On
===== Trigerring Setup =====
*L: Trigger Length   0
*P: Post Trigger Length 0
*S: Start Trigger Pattern 0.0.0.0
*M: Start Trigger Mask 0.0.0.0
*X: Stop Trigger Pattern 255.0.0.0
*Y: Stop Trigger Mask 255.0.0.0
*E: Max. Start-Stop Length 255
===== Other =====
D: Load/Save Settings from/to Flash
R: Reboot

WEB51>
```

Charon I module 2 – RS-232 Setup listing

```
*** HW-group.com HW 6.0 SW 2.F #01 ***
MAC Address                00:0A:59:00:9A:FC
===== IP Setup =====
I: Address                  192.168.6.40
J: Port                     4023
M: Mask                     255.255.255.0
G: Gateway                  192.168.6.254
===== In IP access filter =====
W: Address                  0.0.0.0
N: Mask                     0.0.0.0
X: Port                     0.0
Y: Port Mask                0.0
== Active (Client/Server) mode ==
S: Send to IP               192.168.6.8
U: Port                     2023
T: IP mode                  UDP (broadcast Rcv On)
E: Erase buffer on         None
A: Max. Packet Length      255
Press <Enter> to continue
===== Serial Setup =====
&B: Speed                   9600
&D: Data bits                8
&P: Parity                   NONE
&V: Variable Parity         Off
&S: Stop bits                1
&C: Flow Control            NONE
&R: RS485/RS422 control     RTS = On [+8V]
&T: Serial Line Timeout     10 (chars) [10.416 ms]
&G: Char. Transmit Delay    0 - Off
&H: Tx Control               Tx FULL duplex
%S: TCP/IP setup            On
===== Trigerring Setup =====
*L: Trigger Length          0
*P: Post Trigger Length     0
*S: Start Trigger Pattern   0.0.0.0
*M: Start Trigger Mask      0.0.0.0
*X: Stop Trigger Pattern    255.0.0.0
*Y: Stop Trigger Mask       255.0.0.0
*E: Max. Start-Stop Length  255
===== Other =====
D: Load/Save Settings from/to Flash
R: Reboot
```

UDP Broadcast packet description

Recipient MAC address have to be 0xFFFFFFFFFFFF

Recipient IP address have to be address of the broadcast = log. 1 in the lowest part IP address part. It depend on the IP and MASK settings.

For the IP=192.168.0.8 / MASK=255.255.255.0

Is Broadcast address = 192.168.0.255

Port = receive UDP port on the Charon I module

Received packets in the Charon I module are accepted only if sender's IP is valid in compare with the IP access filter. (W,N and X,Y Setup paramethers).

Data part of the packet have to begin with: "<!--broadcast/charon/ttyS0>" (without quote), other data from the packet are sent to the serial port output.

"<!--broadcast/charon/ttyS0>Hello world" send "Hello world" to the serial port of every Charon I module on the local network.

.BRF file format example

```
# Module IP address - one of the modules on the network
IP=192.168.6.27
# Module net mask - your's PC mask
MASK=255.255.255.0
# Module port - Module's receiveing UDP port
PORT=4023
# Local port - PC outgoing UDP port
LOCALPORT=4023
# Sent data
DATA=(c)HW-server.com - How are you ???
```